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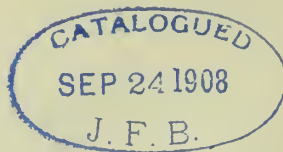
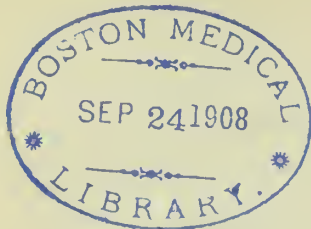
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VOL. XIII SPRINGFIELD, ILL., JANUARY, 1908

No. 1

ORIGINAL ARTICLES

THE MODERN TREATMENT OF TUBERCULOSIS; THE CLIMATIC FALLACY.

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OTTAWA, ILL.

INTRODUCTORY.

In the series of articles which I have been asked to contribute to the *ILLINOIS MEDICAL JOURNAL* on the subject of tuberculosis it shall be my purpose to bring together as briefly as possible those facts with regard to the modern treatment of tuberculosis which either are not well understood or, if understood, are loosely applied. The real test of a therapeutic principle is in its application. Measured by this standard, the modern treatment of tuberculosis is in many respects a disappointment; not because the principles are not correct, but because of the loose and imperfect methods by which they are administered. "A misapplied truth is one of the worst forms of error."

CLIMATE.

Old views die hard, and prejudice is difficult to overcome. Nothing is more fallacious than the belief that climate is an essential factor in the treatment of tuberculosis. The absurdity of the claim that climatic conditions alone are responsible for the cures which may be and are effected in certain localities are the more apparent when we analyze the evidence presented in favor of this belief.

In view of the fact that for generations the medical profession have regarded climate as the principal factor in the treatment, it is not surprising that the laity and even many of the profession should still cling to this opinion. We cannot make substantial progress until we entertain more rational views with regard to the part which climate plays in the treatment. The numerous localities which have hitherto laid claim to special advantages in the treatment of this disease represent practically all climatic conditions in all the civilized countries of the globe, as to

altitude, humidity, dryness, temperature, etc. In fact, each place insists that the curative properties of that particular climate resides in the special atmospheric feature which is most prominent in that locality.

We note that in Europe it is insisted that the cold, humid atmosphere of the north, the murky atmosphere of Great Britain, the somewhat milder climate of Germany, the mountainous region of Switzerland, the more equable and balmy coast of the Mediterranean, each and all lay claim to some special climatic feature which makes it the most desirable for the tuberculous patient. In our own country we find that the arid regions of the southwest have long enjoyed especial distinction. Not only these localities but the clearer, more invigorating and elevated regions of the Rocky Mountains, the less elevated, humid and milder climate of California, and even the Adirondacks and Canada, with their long and very severe winters, are likewise recommended. Each of our own northwestern states has at one time or another, especially when the country was new, enjoyed more or less distinction as a resort for tuberculous invalids.

No doubt cures were and are effected in these several climates under all these varying conditions, which goes to prove that climate itself and of itself is not the agency which has effected a cure, but purity of air, which is not peculiar to any climate or locality. The fact that the sanatoria located in all these different countries are doing good work, the results being substantially the same everywhere where the conditions as to outdoor life, nutritious food and properly regulated exercise are complied with, is additional proof that the favorable results cannot reasonably be attributed to climate alone. We of the middle west and northwest have been sending our patients year after year to the west and southwest. A writer for a prominent magazine recently made a special tour of the southwest for the purpose of investigating conditions from the standpoint of a layman and reports that at least 20,000 persons suffering from consumption are going into that section each year, and of this number at least 12,000 die within the first twelve months. These unfortunates are blindly and vainly searching for that health which the popular delusion with regard to climate is supposed to bring.

In answer to the question, what becomes of these unfortunate victims of their own recklessness or bad advice, he says: "They are wanderers. The Arabs of the great southwest, moving from place to place. Having no home or occupation. Many of them but very little money. A few stay to get well, or at least regain health enough to become permanent residents. Many coming to realize the inefficiency of climate, return to their homes to linger a while among friends until exhausted by the weary search for health, and worn out by the disease, they die, pitiful sacrifices, not only to consumption, but to the popular delusion as to the advantages of climate."

In a recent issue of *Collier's Weekly* comes an appeal from Arizona which is heartrending. The facts set forth are not peculiar to that locality alone, but to all the popular resorts for this class of invalids. The writer says: "If the people throughout the United States could only

see the condition of poor consumptives who reach Phoenix or be made to realize the horror of it they would cease sending their relatives here unless they had sufficient means to care for them.

"Climate alone does not cure. The patient must have nourishing food, properly selected; tender care and nursing; pleasant surroundings, and everything that would tend to take his mind from himself and his terrible affliction. How I wish everyone throughout the country could see these poor, hopeless, helpless human beings sent here by relatives who think they are doing the best thing for the afflicted. A crime has been committed where it was sought to do only good."

Notwithstanding the facts herein set forth are apparent to anyone who has given the subject serious thought, physicians who ought to know better are still indiscriminately sending patients away from home simply because it is the conventional and easiest thing to do. It requires some courage as well as energy to combat old ideas. Many physicians are simply drifting with the tide instead of using their scientific information, opportunities and influence to teach the people the truth with regard to this great question of tuberculosis which is just now engaging the attention of the whole civilized world as no other question effecting the public health has ever done. The immediate duty which lies before the profession is to teach the people that the cure of tuberculosis does not depend upon climate, and where patients persist in blindly seeking a climatic cure, as many of them will, let the responsibility rest upon them and their friends who are ever ready to give well-meant but bad advice. When this delusion with regard to climate is dispelled we will then be in a position to begin an intelligent and well-directed fight against the disease. A mere assertion is not sufficient to settle a controversial question. The consensus of opinion of those who have made a study of this question, while not conclusive, should be accepted as our guide until such time as the issues involved are more definitely settled.

The Committee of the National Association for the Prevention of Tuberculosis, in an exhaustive report of that body on the influence of climate in pulmonary tuberculosis, says: "No advanced worker in this line would to-day, as was formerly done, place climate first in the order of therapeutic measures. Let it never be forgotten that hygiene, diet, teaching and supervision must always come first, but granted that they are properly attended to, then enters the powerful rôle of climate reinforcing and accentuating the effects of these other measures and yielding results that cannot be approached even with the same care and watching and food in less favorable climates." This is included in a majority report of a committee all but one of whom was made up of men eminent in the profession, but each and all represent various climatic resorts. It is not to be expected that these gentlemen would be willing to concede more than to place climate in a subordinate place. In this statement there is no intention to cast any aspersion upon the character of these gentlemen. It must be borne in mind that each and every one of them formerly insisted that climate was the *sine qua non* in the treatment

of tuberculosis, and it is a great concession for them to now make the statement that climate plays a subordinate rôle. Their statement probably approximates the truth, but is quoted more for the purpose of showing the great change which has taken place in professional opinion on this subject, even among those who might reasonably be excused by reason of their education and environment, if they still adhered to the old idea that climate was an essential factor in the treatment.

One member of that committee, Dr. L. F. Flick of Philadelphia, and the only one not representing a climatic resort, refused to concur in the report, and in the discussion is reported as follows: "I wish to record myself as holding to the opinion that there is absolutely nothing in climate in the treatment of tuberculosis. I am convinced that it is a question of method, and that that method can be successfully carried out in any climate. . . . Proper living in the open air with proper diet and proper discipline will give the results, and it remains for the climatologists to demonstrate that they can produce with climate what we can not produce without it."

Dr. Arthur Ransome, an eminent English authority on this subject, says: "Our views in regard to climate have, indeed, undergone considerable modification in recent years. Not long ago a medical man who neglected to recommend to a consumptive a change of climate would have been regarded as entirely wanting in medical knowledge. Since this time a distinct change has come over the opinions of most medical men who now regard the question of climate as of quite secondary importance."

Dr. Arthur Latham, another eminent English authority, says: "The results of sanatorium treatment in a variety of climates have shown that the old ideas of a particular climate or altitude being a specific for pulmonary consumption are erroneous. Climate in itself is not everything. Any climate will do for the treatment of tuberculosis, provided that the air is pure and bracing." He also says: "As far as possible *all patients should be treated under the same climatic conditions as those which they are likely to experience in their subsequent life,*" and, "There can be no doubt that the best and most permanent results are obtained in cold, bracing climates, rather than in warm, or tropical, ones, and certainly the great majority of English patients will do well to avoid warm climates, more especially when these are moist."

Coming to our own country, we quote from Dr. Norman Bridge, than whom we have no better authority, both from the standpoint of eminent professional ability, and also for the reason that he was at one time a victim of the disease. He says: "It (climate) should never be prescribed unless one is sure that it can be taken in the right way and be attended by all the aids that are otherwise available. Many times it is worse than useless. The patient in any climate must be properly fed, housed, clothed and warmed. It is just as important that he should have contentment and mental peace. I would rather have a patient kept in the outskirts of an eastern city (or even in the heart of the city) under hygienic management, sleeping in the best air obtainable winter

and summer, and with his friends and comforts about him, than to send him to some better climate to shift for himself, and be lonesome and homesick. If a patient can have all the conditions for happiness in the new country, then the right change of climate is the thing of paramount importance; but to send him away to a strange region to shift for himself and perhaps to do a hundred foolish things is worse than useless."

Dr. John C. Huber says: "No particular climate is essential for the cure of consumption. It is not so much where the consumptive lives as how he lives that is of the most importance."

Dr. A. P. Francine, Director of the Pennsylvania Society for the Prevention of Tuberculosis, says, in concluding a discussion in a recent work on the Modern Treatment of Pulmonary Tuberculosis: "Without attempting to dogmatize upon the question of climate, one important fact stands out, i. e., the sooner the general practitioner or internist ceases to advise change of climate promiscuously, the better it will be for the consumptive in general and for those of small means in particular. Too often the physician, out of thoughtlessness or of habit, advises a change of climate to those who can ill afford it, or who are not really proper cases from a medical point of view to be sent away. Poor people often make a financial effort to pay one visit to some well-known physician for an opinion or diagnosis. The latter finds him suffering from tuberculosis, usually well advanced, and with self-complacent irresponsibility advises him to 'go out west.' He may even go so far as to tell him that in this course lies his only chance of getting well. Such advice can not be too strongly condemned, both from a professional and humanitarian standpoint."

Dr. S. A. Knopf, of New York, in speaking of the cure of tuberculosis, says: "What is most interesting to know is that this cure can not only be accomplished in California and Colorado, but also in our own home climate."

Dr. Henry P. Loomis, of New York, who is still an advocate of climate, concedes that, "not the most beautiful and healthful climate, nor the most delightful resort can cure the consumptive patient if he is not wisely guided in treatment."

Dr. Burney Yeo pithily remarks: "Cure without climate is better than climate without cure."

Several of the opinions quoted above were rendered from two to five years ago. Since that time more and stronger evidence has accumulated in favor of the universal application of the modern treatment.

The latest authority from which I can quote is the Practical Medicine Series, just issued, in which, in answer to the question, "Should the physician send his tuberculosis patient to Colorado?" Dr. W. H. Waterson, who, in addition to his recognized ability as a physician, has recently been a patient in that state, protests strongly against the indiscriminate sending of patients to Colorado. He says: "Climate in itself is not a specific, and, to gain a cure, only those cases should be sent who know where they can be cared for, and with none of the complications contraindicating high altitude and with not less than \$500 a year to live

on. It is essential that they go to a well-regulated sanatorium, that they may have the oversight necessary on reaching new conditions of life and climate. So much can be done in less favorable climates with good care that it is not worth the expense and effort to go away to an unregulated life with no good food nor medical care."

In summarizing the accumulated evidence on this question up to date, the authors say: "The sanatorium movement has demonstrated that climate is not essential; open-air life is essential. Fresh air, rest, good food, regularity in life, and faithfulness in living up to the rules are the key to a cure."

Dr. John Wethered, Medical Director Y. M. C. A. Health Farm, Denver, Colo., in a personal interview, said: "No matter how bright the sun, or how bracing the atmosphere, if the surroundings nag a man, if the people he is with annoy him, if he gets to brooding over business or home affairs, or if he has been compelled to fill up on bad food and water, everything will look blue to him. On the other hand, it concerns him little if the weather is bad, providing his surroundings are pleasant, the people agreeable, nothing bothering his mind and when he is 'pressing his buttons' with a good meal."

Concurrent opinions could be multiplied indefinitely. The above, however, it would seem, should satisfy the most captious and convince the most skeptical.

That climate is not a necessary factor has been amply demonstrated by Dr. Bowditch of Boston, who has for eleven years been treating poor consumptives in his sanatorium at Sharon, where in the low, damp climate of New England, not far removed from the Atlantic coast, which, according to previously accepted standards, may justly be regarded as an exceedingly unfavorable climate, he has been able to secure results equal to those obtained in what we have been inclined to consider more favorable climates. Many sanatoria in Germany and England are placed in parts of the country which are subject to frequent fogs and where the relative humidity is unusually high, but in spite of these drawbacks a very satisfactory percentage of these patients are sent home either well or nearly so. These results have been duplicated over and over again in all well-conducted sanatoria everywhere.

Not only thousands of lives are being sacrificed to this popular delusion as to climate, but enough money is being annually spent to have effected at home a cure of the curable and properly cared for the incurable. We are learning the truth that there is no particular climate for consumption. Wherever there is pure air, there will the sufferer from tuberculosis find a place to fight his disease if taken in time. There the large majority of sufferers can be cured, if they can at the same time obtain proper food and rest under intelligent medical direction. This is a truth which has been amply demonstrated by the successful fight which has been made in all climates where the principles of treatment as now understood are systematically carried out. The climatic cure of consumption is largely a tradition. The tuberculous patient can be and should be, as a rule, treated in his home climate wherever this may be.

It is not a question of altitude, dryness, humidity, or any of those atmospheric conditions to which we have usually attributed the cure. In so far as climate has had any influence, it has been simply a question of fresh air. The curable case can more certainly and cheaply be cured at home. The incurable should not be sent away to die, friendless and alone, but kept at home where he can at least enjoy the comforts of a home and the society of friends during his months or years of suffering.

Whatever may be the value of climate, the fact remains that only a very few can avail themselves of it in a rational manner. This being true, it is idle to quibble or waste our time in controversy. People of means and leisure are in a position to elect what they shall do. They do not need our assistance, and usually will not take our advice. Our responsibility is for that vast army of consumptives who for one reason or another are compelled to remain in their home climate. Even if we concede all that is claimed for certain climates (which, in view of rapidly accumulating facts, we do not), financial reasons alone would preclude its general application. In addition, there is the practical impossibility of getting certain articles of food which are so essential, as, for example, milk and eggs. These must be fresh, which makes it necessary that they shall be produced very near the place of consumption. This can not be done to advantage (if at all) in the arid regions of the southwest or the mountains of the west. It is a well-known fact that the food products which the tuberculous patient most demands are not only very expensive, but always difficult and not infrequently impossible to obtain.

In a recent visit I investigated conditions and results in the west and find all the medical men whom I interviewed practically in accord with the opinions so freely quoted above. Only those insist on climate as an important factor who are ignorant of existing conditions elsewhere or are directly interested in keeping up the delusion.

It should not be the purpose of those who do not regard climate as of primary importance to deny that it has some value. This is neither fair nor in accordance with that scientific spirit which gives lasting value to our work. Nothing is gained by overstatements for or against climate. Some patients will do better in one climate than in another. This, however, is usually a matter of experiment and can not be determined in advance. While it is true that some patients will do better by sending them to a mild climate at a higher altitude, it is also true that it is often necessary to change to a colder climate and a lower altitude. It is not to climate as it may be applied to which objection is made, but to climate as it is applied. It will find its proper place as a therapeutic agent with a readjustment of our opinions based upon the facts of experience as these shall accrue. Sanatoria have demonstrated that climate is not an essential in the treatment. What has been said of whisky applies to air: "Some may be better than others, but none is poor." No doubt a cure can be effected more pleasantly in a mild climate, but not more profitably. The leading physicians of the west are all agreed that climate can not be depended upon for a cure; that under no conditions do they advise the return of improved or apparently cured patients to their

home climate, and that sanatoria are as essential in the treatment of tuberculosis in the so-called favored climates as elsewhere.

Then, too, in the discussion of climate, we rarely ever hear of its disagreeable features, such as excessive heat, high winds, and more particularly dust and sand storms, which are often simply intolerable. We hear nothing of homesickness, the lack of proper direction, and, above all, the woeful dearth of accommodations for the care of the multitude of climatic health seekers. These are facts which are kept in the background. The truth is (and it can not longer be concealed) that climate has been commercialized, not to the advantage of the victims of tuberculosis, but for the benefit of those who live upon them. This indictment is not meant to include the many intelligent and conscientious physicians and others who are residents of the several health resorts who deplore and condemn the unfortunate conditions which exist and are doing everything they possibly can to remedy the evils.

It would seem a superfluous task to argue a question which has been so clearly proven and so generally admitted, were it not for the fact that our actions are still governed by our traditional ideas. If for any reason, good or bad, tuberculous patients are sent from home, they should be consigned to the care of some physician residing at the point of destination, who will be charged with the responsibility of looking after and directing them; or, better still, sent to sanatoria in the places to which they are sent.

It is woeful to note the ignorance as well as the indifference displayed by the average health seeker when left to his own inclination. He generally lands in the new locality full of preconceived ideas and determinations which, if left uncorrected, tends to militate against his recovery. Especially is he apt to drift into hotels and boarding houses which have been repeatedly occupied by other victims of the disease, unconscious of the fact that in so doing he is liable to inherit new infection from some former occupant. He seeks to while away the time and relieve homesickness by indulging in many pleasures and pastimes which should be absolutely forbidden. The theaters, cheap playhouses, saloons, and even gambling houses are the frequent resorts of uncontrolled health seekers. These and a number of other fallacies prevail and emphasize the necessity of having a protector placed over them.

This information is based on personal observations and reinforced by the statements of numerous physicians with whom I conferred. Those who have observed the army of tuberculous patients who are traversing every highway and byway of prominent climatic resorts have witnessed not only these object-lessons, but others not easily forgotten.

In conclusion, permit me to ask of my colleagues who may read this paper:

How many patients of your acquaintance have returned from the milder climates cured or benefited and not subsequently relapsed?

How many who have sought a climatic cure have remained long enough to derive any benefit?

How many patients and their immediate families have been impoverished in the vain search for a climatic cure?

If it is still insisted that climate is such an important factor, why is it necessary to build sanatoria in the so-called favorable climates and there be compelled to comply with exactly the same conditions as are necessary to obtain success elsewhere?

It is not possible to secure statistical information in answer to these questions, but will it not be well for the conscientious physician to look about him for such an answer as he can obtain from his own experience before he takes the responsibility of advising his patient to "go west"? The time has come when physicians who assume the responsibility of advising tuberculous patients will be held to a stricter accountability than in the past, and those who fail to recognize their duty in this respect will find themselves displaced by their more conscientious and progressive colleagues.

GENERAL CONSIDERATIONS CONCERNING OPSONINS AND THERAPEUTIC INOCULATIONS OF DEAD BACTERIA.*

LUDVIG HEKTOEN, M.D.

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It has been shown conclusively that at least experimentally phagocytosis of many bacteria is dependent on certain substances which become attached to the bacteria and so change them that they are taken up by polymorphonuclear leukocytes. These substances, whose discovery we owe principally to Wright and Douglas, are called opsonins. We know that injection of animals with suitable bacteria, as well as with alien red corpuscles, may give rise to specific newly formed opsonins; and in human beings specific opsonins may arise either as the result of spontaneous infection or of artificial introduction of dead bacteria or bacterial products. By means of the opsonic index the fluctuations in the opsonin in the blood may be followed more or less accurately.

As is well known, the opsonic index is supposed to represent the relative amount of an opsonin in the serum of an individual as compared with the normal standard in that case. Speaking generally, the opsonic index with respect to a given bacterium is obtained by dividing the average number of bacteria taken up per leucocyte, under the influence of the serum of the person in question, by the average number taken up per leucocyte under the influence of standard normal serum under conditions that are absolutely comparable.

There seems to be general agreement among investigators to the effect that after the injection of a suitable dose of bacteria there is usually a definite fall of the index of the injected person or animal, followed by a rise above normal and more or less gradual return to the normal. It has been found, too, that in many infections there are distinct changes in the specific opsonic index; thus in acute infections, like pneu-

* Read in Symposium on Opsonins before meeting of Chicago Medical Society, Oct. 30, 1907. For discussion see page 89.

monia, diphtheria, etc., there is first a fall and then as the symptoms subside a definite rise. In more or less stationary local infections the index may be low or there may occur irregular fluctuations.

The demonstration that opsonins renders bacteria susceptible to phagocytosis does not prove that they are of importance. It must be shown that phagocytosis is essential for the destruction of the bacteria. Denys several years ago showed that in mixtures of normal rabbit leucocytes and normal rabbit serum there was little or no destruction of virulent streptococci, whereas, when immune serum, i. e., serum rich in opsonin, was substituted, prompt phagocytosis with complete destruction of the streptococci took place. The serum alone of normal persons and of patients with streptococcus infections has no streptococidal effects, but constitutes a good medium for streptococci; Ruediger, however, has shown that normal defibrinated human blood has some streptococidal effect, that blood from patients with acute infections and leucocytosis has much greater destructive effect, and that the higher the leucocyte count the greater this effect. Rosenow has made analogous observations with respect to certain strains of pneumococci. Virulent anthrax bacilli grow freely in normal dog serum and in suspensions of washed dog blood corpuscles, but are destroyed in defibrinated dog blood, and this destruction is associated with marked phagocytosis. The essential rôle of intraleucocytic destruction of the bacilli is shown well in plates made with decreasing quantities of blood—the destruction decreases as the corpuscles (leucocytes) decrease even when the total quantity in all the tubes is made by means of dog serum.

While these facts undoubtedly indicate that opsonification and phagocytosis play an important part in many infections, there is still much that is obscure, particularly as regards the neutralization of the toxic substances produced by the bacteria in question, and I would mention especially the resistance offered by many virulent bacteria to phagocytosis by human leucocytes. Infectious microbes, after their entrance into the animal body, may so change their characters that they become immune to the animal antibodies. By way of illustration I may point out that Rosenow by elaborate experiments finds that avirulent pneumococci absorb human opsonin and become susceptible to phagocytosis, whereas virulent pneumococci do not absorb opsonin and are insusceptible to phagocytosis. Inasmuch as pneumococci freshly isolated from the blood in pneumonia invariably resist phagocytosis, the manner of their destruction within the body still presents complex problems that cannot be discussed now.

For centuries it has been a matter of common knowledge that recovery from an infectious disease leaves behind a more or less well-marked immunity to that disease. Advantage was taken of this fact in the inoculation of smallpox, and later the success of vaccination suggested that possibly infection with attenuated virus in general would give the same protection as infection with the fully virulent. In 1881 Pasteur successfully protected sheep against anthrax by means of the injection of cultures of attenuated anthrax bacilli. The principle of artificial

immunization or protective inoculation against disease of known microbial cause was now established, and it has been found that good protective reactions with the production of antibodies may result also from the infection of killed bacteria and of certain sterile bacterial products. The genius of Pasteur carried him still further when he conceived his preventive treatment of hydrophobia, which consists in the inoculation in an intensified manner of the modified, specific though as yet unknown virus during the incubation period, the resulting reactions in favorable cases completely neutralizing the infection. The first to practice injections of bacterial products for curative purposes in an established infection was Koch when he introduced tuberculin as a remedy for tuberculosis. Petruschky and Richardson, each quite independently, attempted to hasten the reactions that lead to healing in typhoid fever by the injection of sterile products of typhoid bacilli. Other efforts in the same general direction might be given, but, as the whole world knows, Wright is the one who has placed the treatment of infection in general by means of corresponding bacteria upon a more definite basis, and as the outcome of his enthusiastic advocacy the impression is growing that various infectious processes, especially when subacute and chronic, can be treated more or less effectively by the inoculation of the patient with proper doses of dead bacteria of exactly the same kind as cause the particular infection in question.

Therapeutic inoculations of dead bacteria are based upon the following considerations:

1. The power of suitable quantities of bacterial substance to stimulate the formation of specific opsonins and other specific antibodies.
2. The belief that the increased formation of such substances may promote healing of the corresponding infections.
3. The apparent inability of the body under certain conditions of natural infection to produce such substances in adequate quantities without special stimulation.

The essential prerequisites for therapeutic inoculations are: (1) correct etiologic diagnosis; (2) sterilized pure cultures of the bacterium causing the infection in each disease or sterile products of such bacterium; and (3) the injection of proper doses at proper intervals so as not to unnecessarily lower the antibacterial power or cause other unfavorable disturbances. As stated, at present interest is especially focussed on the methods elaborated by Wright and of which the essential feature is the use of such doses of killed bacteria as suffice to raise the opsonic index above normal.

The difficulties and the sources of error in the determination of the opsonic index seem to some to be so great that they question the reliability of the methods. The striking uniformity of certain outstanding results obtained by different observers under similar conditions, and the general harmony of these results with what one would expect on clinical and other grounds, seem to me to indicate that in competent hands the method is not wholly untrustworthy. On the other hand, it must be borne in mind that opsonins after all constitute only one of the

bodies or groups of bodies produced in the reactions of immunity and that consequently it may well be questioned whether they do constitute a reliable criterion of the antibacterial power under all circumstances.

While careful observers seem to agree that in the usual phagocytosis experiment the number of organisms taken up by the leucocytes, after allowing for the necessary error of experiment, is directly proportional to the concentration of the bacterial emulsion employed, there is no absolute proportionality between serum concentration and the number of bacteria taken up. Thus the number taken up may be nearly as great with one-half and one-fourth concentration of serum as with the full strength. This fact shows that the present method of opsonin determination is not as sensitive as desirable, as it may fail even under general ideal conditions to show differences actually present in the opsonin content of different sera, and it is quite probable that in the near future progressive serum dilutions will come into use in order to determine the relative amounts of opsonin just as are now used in making agglutination and precipitation tests.

Turning now to the consideration of the treatment of tuberculosis with immunization substances, it is interesting to note that Koch did not look upon his original tuberculin as an immunizing agent, but regarded the healing obtained as the result of more or less violent local reactions in the tuberculous foci. Now, however, the essential action of all tuberculins is ascribed to the stimulation of the machinery of immunization and the production of antibodies. The method of using tuberculin in whatever form is very important. At present there are at least two distinct procedures, which Trudeau designates the laboratory method and the clinical method. By the laboratory method is meant the method prescribed by Wright and in which the opsonic index is the guiding factor. In this case the dose of tuberculin remains minimal and practically the same throughout. This treatment has met with greatest apparent success in chronic local tuberculosis elsewhere than in the lungs. Indeed its value in pulmonary tuberculosis is, to say the least, questionable. The clinical method, which has developed more gradually during the past fifteen years or so and almost exclusively in connection with pulmonary tuberculosis, is controlled solely by the clinical course and manifestations. The original belief that definite course reactions are a necessary consequence of tuberculin treatment has been abandoned and great care is now recommended not to give larger doses than the patient can tolerate without marked reactions.

The main difference between the two methods is this: The laboratory or opsonic method takes no special account of the production of immunity to tuberculin, whereas the clinical method aims and tends to produce immunity to tuberculin without clinical reactions. We know that animals can be immunized to tuberculosis and tuberculous patients may be made insusceptible to 10,000 times the amount of tuberculin in that at first would cause signal disturbances. The coincident and often profound general improvement recorded in cases so treated

shows that progressive increase in dose need not be harmful, whatever the state of the opsonic index in the meantime may have been.

As regards the actual value of tuberculin immunization in pulmonary tuberculosis I can express no personal opinion. Careful mortality statistics are one means that in time can furnish unquestionable evidence of the value of the treatment. Trudeau's figures are encouraging, as they show, at the end of a period of fifteen years, that of the patients treated with tuberculin from 18 to 25 per cent. more were alive than those not so treated. Trudeau expresses well the difficulties in the way of final conclusions when he says: "The more familiar one becomes with the varying course of chronic tuberculosis the easier it is to realize the difficulty of setting forth any positive evidence as to the favorable influence *per se* of any specific treatment, when so many other factors influence the course of a disease in itself so erratic and varying in its manifestations." The results of inoculation treatment of other diseases should be weighed with a similar keen appreciation of the obstacles in the way of final judgment, and I think I am justified in saying that at present correct final estimation of the real value of therapeutic inoculation of dead bacteria is not possible because as yet mostly isolated cases have been reported, often, it is true, of quite marvelous cures, but as the diseases concerned are largely spontaneously curable a body of reliable statistics and much personal experience must accumulate before final conclusions may be drawn.

VIRULENT PNEUMOCOCCI, OPSONIN AND PHAGOCYTOSIS.*

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The mechanism by which the human body combats pneumococcus infections in pneumonia is still very obscure. The blood serum, before, during or after crisis, possesses no bactericidal properties. However much it may seem that opsonification and phagocytosis are primarily responsible for the destruction of the pneumococcus, there are some serious objections in the way of this explanation.

That lobar pneumonia is no longer to be looked upon as a local disease of the lung but as a general infection instead, is the result of recent blood cultures. The pneumococcus has been found in the blood in a large number of cases by Prochaska, Fraenkel and others and in 85 per cent. of 300 cases examined by myself. Shortly before, during and after crisis, blood cultures are apt to be negative. Wolf¹ has shown that pneumococci may be present in the blood after crisis and hence crisis should not be looked upon necessarily as being due to death of the pneumococci in the blood.

The pneumococci isolated from the blood in pneumonia resist phagocytosis in normal and pneumonic serum, while those isolated from

* Read in Symposium on Opsonins before meeting of Chicago Medical Society, Oct. 30, 1907. For discussion see page 89.

1. Journal Infectious Diseases, vol. iii, 1906, 446.

the sputum are not only more readily taken up, but, as Graham has found (*Loc. cit.*), show a lower grade of virulence. From these observations it would seem, therefore, that only those pneumococci of such virulence as to resist opsonification and phagocytosis gain entrance into the general circulation.

In a previous paper² it has been shown that non-virulent pneumococci not only remove opsonins from serum because phagocytizable, but are destroyed within the leucocyte as well, so that a leucocytic blood has a pneumococidal action which is directly proportionate to the number of living leucocytes present. On the other hand, highly virulent strains do not remove opsonins from serum and resist opsonification and phagocytosis completely in both normal and pneumonic serum. Thus it would seem that the virulent pneumococci, which are primarily responsible for the blood infection in pneumonia, are not rendered more susceptible to phagocytosis by opsonins. The objection that fifteen to thirty minutes' exposure to opsonins in the ordinary experiment is not long enough for the opsonins to act is not applicable because strains of pneumococci of a grade of virulence so as to just resist phagocytosis are not rendered phagocytizable by forty-eight hours' contact with highly opsonic serum. Cultivation of virulent pneumococci in opsonic serum or blood rather preserves virulence and resistance to phagocytosis than otherwise, while cultivation upon blood-free artificial media rapidly renders a virulent strain susceptible to phagocytosis.

The susceptibility to opsonin and the power to absorb opsonin from opsonic serum of one and the same pneumococcus may be increased or diminished at will by passage through rabbits and artificial cultivation (Tables 1 and 2).

TABLE 1.

INCREASE IN SUSCEPTIBILITY TO PHAGOCYTOSIS AND IN POWER TO ABSORB OPSONIN OF PNEUMOCOCCUS 240 ON CULTIVATION UPON ARTIFICIAL MEDIA.

Days upon Artificial Media.	Susceptibility to Phagocytosis of Washed Pneumococcus 240 after Experiment.	Susceptibility to Phagocytosis of Culture Used to Deopsonize Serum before Absorption Experiment.	PHAGOCYTOSIS (20 MINUTES).	
			Normal Serum.	Treated Serum.
1	0	0	12	10.5
9	2.3	+	10	6.0
14	6.3	++	6.0	3.0
23	10.0	+++	18	4.0

TABLE 2.

SUSCEPTIBILITY TO PHAGOCYTOSIS AND POWER TO ABSORB OPSONIN OF PNEUMOCOCCUS 237 AS AFFECTED BY PASSAGE THROUGH RABBITS.

Pneumococcal Strain Used to Absorb Opsonin.	Days upon Artificial Media.	Susceptibility to Phagocytosis.	PHAGOCYTOSIS (20 MINUTES).	
			Untreated Serum.	Treated Serum.
237	2	0	—	—
237 IV	8	+	4.5	0.6
237 VIII	2	0	6.0	4.6
237 IX	2	0	28.0	24.0
237 XI	10	+	10.0	1.5
237 XIII	2	0	6.0	4.0
237 XVIII	2	0	15.0	11.4

The Roman numerals after 237 indicate the number of rabbits through which the pneumococcus has been passed at the time of each experiment.

This fact, together with the increased pneumococco-opsonic index at the time of crisis, as Wolf² and others have shown, seems good proof that opsonification and phagocytosis play an important rôle in combating the pneumococcus infection in pneumonia. But that this mechanism is probably not the primary factor seems equally likely, as will be shown subsequently.

The interesting relation which seems to exist between virulence of pneumococci and opsonification and phagocytosis is further shown by the results of a series of experiments which consisted in the simultaneous intraperitoneal inoculation of guinea-pigs and rabbits with virulent and non-virulent pneumococci and the subsequent study of the peritoneal exudate and blood. The non-virulent pneumococci were taken up promptly by leucocytes and endothelial cells so that at the end of eight-teen hours the pneumococci and nearly all the leucocytes had disappeared, while in the animals receiving the virulent injections there was scarcely any evidence of phagocytosis and the pneumococci progressively increased with death. Blood cultures of the former remained negative throughout, while the latter were positive soon after inoculation. Phagocytosis and intraphagocytic destruction seemed to be the method by which the non-virulent pneumococci are gotten rid of, but failed to influence the infection where virulent pneumococci are used.

TABLE 3.

EFFECT OF EXTRACTS OF VIRULENT AND AVIRULENT PNEUMOCOCCI UPON OPSONIC SERUM.

Equal parts of extract or NaCl and serum were incubated at 37° C. for one hour when equal volumes of washed blood and pneumococcal suspension were added.

Mixtures.	Phagocytosis (20 Minutes).
Virulent extract	0.13
Avirulent extract	4.6
NaCl solution	6.0

What determines the virulency of pneumococci? Are pneumococci virulent because they resist opsonification and phagocytosis or is this interesting relation a mere coincidence? Upon what does this remarkable difference in the behavior of virulent and avirulent pneumococci depend?

In order to investigate more closely the mechanism whereby virulent pneumococci defend themselves against opsonin and phagocytosis, I undertook, in accord with Dr. Hektoen's suggestion, a study of the action of pneumococcal extracts upon opsonic serum. Highly virulent and avirulent pneumococci were suspended in m/8 NaCl solution and placed at 37° C. for forty-eight hours. The clear fluid drawn off after thorough centrifugalization was then tested as to its action upon opsonin (Table 3). The result is quite striking. The extract from the virulent pneumococci inhibits phagocytosis almost completely, whereas the avirulent extract does so in much less degree.

Similar results have been obtained with many extracts representing ten strains of virulent pneumococci obtained from the blood of pneumonia patients and from post-pneumonia empyema. The extracts of five strains of non-virulent pneumococci, cultivated upon artificial media

for from four weeks to four and one-half years, have given only a moderate antiopsonic effect.

The extracts are now prepared from pneumococci grown upon large blood-agar slants or in glucose-free broth to which 1 per cent. dextrose is added. This broth is prepared from beef and subjected to fractional sterilization. The reaction is 1 per cent. acid to phenolphthalein. Virulent pneumococci grow more abundantly and more rapidly in this medium than in the ordinary broth made from beef extract and sterilized in the autoclave. The addition of one volume of sterile blood to eight or ten volumes of broth not only makes the cocci grow better but they also yield a stronger extract.

TABLE 4.

THE SPECIFIC ANTIOPSONIC ACTION OF EXTRACTS OF VIRULENT PNEUMOCOCCUS.				
Mixtures of Pneumococcal extract and Serum or NaCl Solution at 37° C. for 1 hour before adding Washed Blood and Bacterial Suspension.		PHAGOCYTOSIS (20 MINUTES).		
		Pneumo- coccus.	Strepto- coccus.	Staphylo- coccus.
Serum 0.1 + pneumococcal extract 0.1	.....	0.1	7.0	10.3
Serum 0.05 + pneumococcal extract 0.15	.....	0	3.3	9.8
Serum 0.025 + pneumococcal extract 0.175	.....	0	1.5	5.0
Serum 0.1 + NaCl 0.1	.....	6.0	10.6	12.0
Serum 0.05 + NaCl 0.15	.....	5.0	6.0	10.7
Serum 0.025 + NaCl 0.175	.....	3.2	3.0	6.0

TABLE 5.

EFFECT OF VIRULENT PNEUMOCOCCUS EXTRACT UPON AVIRULENT PNEUMOCOCCI.			
Equal numbers of avirulent pneumococci suspended 24 hours in the same amounts of virulent extract and NaCl sol. The cocci washed and phagocytability determined.			
Extract pneumococci + normal serum	+ washed blood	aa	2.0
NaCl pneumococci + normal serum	+ washed blood	aa	25.0
Extract pneumococci + serum	+ NaCl	aa + washed blood	aa 6.0
NaCl pneumococci + serum	+ NaCl	aa + washed blood	aa 30.0

TABLE 6.

EFFECT OF AVIRULENT PNEUMOCOCCI ON PNEUMOCOCCAL EXTRACTS.			
Avirulent pneumococci suspended in virulent extract 24 hours at 37° C. and then removed by filtration. The antiopsonic effect of the extract so treated compared with untreated extract:			
Mixtures.		Phagocytosis (20 Minutes.)	
Treated extract	0.15 + serum 0.05		2.4
Untreated extract	0.15 + serum 0.05		0
Treated extract	1 + serum 0.15		4
Untreated extract	1 + serum 0.1		0.2
NaCl solution	1 + serum 0.1		5.0

In order to get active extracts it is necessary to suspend rather large quantities of pneumococci in relatively small amounts of salt solution. The pneumococci in about 60 c.c. of broth after forty-eight hours' growth are suspended in 4 to 5 c.c. of normal salt solution and kept at 37° C. for forty-eight hours, heated to 60° C. for one hour, the pneumococci centrifuged down and the supernatant clear fluid drawn off.

The conclusion seems warranted that the extract contains some substance or substances which bind or neutralize the opsonin in the serum, because active extracts do not inhibit phagocytosis by washed leucocytes of previously sensitized pneumococci. Furthermore, the antiopsonic effect of virulent pneumococcal extracts is largely specific for pneumococci, as Table 4 shows the extract does not prevent the phagocytosis of streptococci and staphylococci. After being treated in the manner described virulent pneumococci appear to become phagocytatable. It must be remembered, however, that there are difficulties in the way of a clear demonstration on this point, because thoroughly extracted or autolyzed

organisms are so disintegrated and stain so poorly that they are hard to see. However, if extracted organisms do become phagoeytable they should absorb opsonin from serum, and, if large enough quantities are added, the pneumococco-opsonin should be removed entirely; and it has been found that when equal quantities of highly virulent pneumococci, extracted and unextracted, are suspended for twenty-four hours in equal amounts of serum, the extracted remove all the opsonin while the unextracted diminish only slightly the opsonic power. Unfortunately it is impossible to carry out experiments with respect to the animal virulence of the extracted pneumococci, because extraction as carried out is associated with death of the cells.

When avirulent pneumococci are suspended for twenty-four hours in virulent pneumococcal extract and then washed rapidly in salt solution they become relatively insusceptible to phagocytosis (Table 5) at the same time as the extract employed loses its power to neutralize opsonin (Table 6) and also becomes less toxic. This interesting result awakened the idea that possibly the induced resistance to phagocytosis brings with it restoration of virulence. To test this possibility by experiment there was injected into the peritoneal cavity of each of three guinea-pigs of nearly the same weight the twenty-four-hour surface growth of two blood-agar slants (approximately 20 sq. cm.) after treatment of the pneumococci (avirulent 233) in each case as follows: (1) Guinea-pig No. 1 received the pneumococci in 3 c.c. of NaCl solution in which they had been suspended for twenty-four hours. (2) Guinea-pig No. 2 received the pneumococci in 3 c.c. of virulent pneumococcal extract in which they had been suspended for twenty-four hours. (3) Guinea-pig No. 3 received the pneumococci after they had been suspended for twenty-four hours in virulent pneumococcal extract and then washed rapidly. The results of the detailed study of the subsequent phenomena are shown in Table 7.

The results of the examination of the peritoneal fluid and blood cultures before and after death leave no doubt that death in guinea-pigs Nos. 2 and 3 was the result of pneumococcal growth, and this growth appears to have been made possible through the acquirement of virulence by the previous treatment of the cocci in the extract. The rapidity with which the leucocytes disposed of the untreated pneumococci is especially noteworthy. No free pneumococci were found at the end of six hours, notwithstanding that such a large quantity was inoculated. In the case of treated pneumococci the results were diametrically different. The endothelial cells, which were very numerous at the end of twenty-four hours in the peritoneal fluid, showed marked phagocytosis of polymorphonuclear leucocytes in guinea-pig No. 1 and of pneumococci in guinea-pigs Nos. 2 and 3. It seems that the endothelial cells which appear later take up pneumococci of a higher grade of virulence than the leucocytes, for at this time the latter show no phagocytosis, even though pneumococci are present in abundance. Results similar to these have been obtained in rabbits as well as guinea-pigs with four other strains of avirulent pneumococci which had been cultivated for three, seven, eight and fifteen months respectively. The animals receiving the pneumococci

in virulent extract always showed the greater reaction, and death occurred earlier in them than in the animals which received pneumococci that had been washed after treatment in extract. That this in a measure is the result of toxic effect of the extract itself is probable, because by itself the extract is not without toxic action. It is likely also that by washing in salt solution pneumococci treated with extract a certain amount of the active substance is again extracted. Subsequent generations of the pneumococci isolated from the blood of the dead animals have virulence which increases as usual on animal passage.

TABLE 7.

THE CONFERENCE OF VIRULENCE UPON AVIRULENT PNEUMOCOCCI BY TREATMENT IN EXTRACTS OF VIRULENT PNEUMOCOCCI.

Intraperitoneal inoculation of same quantity of avirulent pneumococcus after treatment for 24 hours in 3 c.c. of NaCl solution and in 3 c.c. of virulent extract.

Guinea-pig 1 (320 grams) Pneumococci in Salt Solution.	Guinea-pig (325 grams). Pneumococci in Untreated Extract.	Guinea-pig 3 (340 grams) Pneumococci in Untreated Extract Washed and Suspended in 3 c.c. NaCl Solution.
4½ hours. Many leucocytes; phagocytosis of pneumococci marked; few free pneumococci; no endothelial cells.	Few leucocytes, many pneumococci; some phagocytosis. Seems in great pain.	Few leucocytes, some phagocytosis; no endothelial cells.
6 hours. Many leucocytes, no free pneumococci; slight phagocytosis.	More leucocytes, many pneumococci; considerable phagocytosis; seems ill.	Leucocytes abundant; many pneumococci; some phagocytosis.
24 hours. Leucocytes fairly abundant; many endothelial cells digesting leucocytes; as many as four per cell. Blood culture, negative. Seems perfectly well. Weight 310 gms.	Many leucocytes; some endothelial cells, phagocytosis of pneumococci but not leucocytes; free pneumococci abundant. Blood culture positive. Crouched, very ill. Weight 275 gms.	Very many leucocytes, phagocytic endothelial cells, phagocytosis for pneumococci but not for leucocytes. Blood culture positive.
48 hours. Leucocytes and endothelial cells few. Entirely well. Blood culture negative.	Leucocytes many; show no phagocytosis; phagocytosis of pneumococci and leucocytes by endothelial cells; free pneumococci present. Weight 240 gms. Very ill.	Less phagocytosis of pneumococci by endothelial cells; free pneumococci present. Weight 275 gms. Very ill.
72 hours. Entirely well. Weight 320 gms.	Death. Heart's blood—pure culture of pneumococci. Serofibrinous peritonitis.	Still very ill.
96 hours .....	.....	Death. Findings as in Fig 2.

The minute study of the antiopsonic body in pneumococcal extracts is now in progress. It may be stated that it resists boiling for two minutes and that it does not appear soluble in alcohol or ether. To what extent, if any, it may be associated with the capsular substance of the pneumococci has not been determined. On morphological grounds there seems little reason to associate virulence of the pneumococci with the capsule because it presents the same general appearance in virulent as in avirulent strains.

The chief points may be summarized as follows: It has been found possible to extract from virulent pneumococci which themselves originally do not take up pneumococco-opsonin a substance which neutralizes the opsonin in human serum; this substance unites with avirulent pneumococci and by so doing it confers upon them a degree of resistance to phagocytosis as well as of animal virulence. In other words, it seems

possible to extract from virulent pneumococci the substance upon which virulence would seem to depend, and at present the name "virulin," suggested by Dr. Hektoen, seems quite appropriate. While the action of "virulin" may be subject to several hypothetical explanations, at present it is probably best to look upon it simply as a substance or mixture of substances which when united with the pneumococcal cell prevent this from taking up opsonin, and which when free has special affinity for opsonin. That it does not merely concern free opsinophile cell receptors seems likely, for one reason because virulent pneumococci when extracted, i. e., freed from virulence, are found to absorb pneumococco-opsonin freely.

CONCLUSIONS.

Avirulent pneumococci absorb opsonin and become susceptible to phagocytosis; virulent pneumococci do not absorb opsonin and are insusceptible to phagocytosis; and these properties may be diminished or increased at will by passage through rabbits or cultivation on artificial media as the case may be.

Extraction or autolysis of virulent pneumococci in NaCl solution brings into the solution a substance or group of substances which inhibits the action of pneumococco-opsonin; avirulent pneumococci take up this substance and now become not only resistant to phagocytosis but exhibit also to some degree the property of animal virulence; after extraction of the substance virulent pneumococci acquire the power to absorb pneumococco-opsonin.

From the evidence at hand, it would seem, therefore, that opsonification and phagocytosis play a secondary and not a primary rôle in combating the pneumococcus infection in pneumonia, because, as here shown, virulent pneumococci must be previously altered before they will absorb opsonin and become phagocytatable.

BACTERIAL VACCINE THERAPY IN TUBERCULOSIS.*

MARY C. LINCOLN, M.D.

Private Laboratory Dr. L. L. McArthur and Dr. J. C. Hollister, St. Luke's Hospital,
CHICAGO.

It is our purpose to submit to you this evening the report of a year's work on Bacterial Vaccine Therapy carried on in the private laboratory of Dr. L. L. McArthur and Dr. J. C. Hollister at St. Luke's Hospital. The laboratory work was done by Drs. Vail, Lincoln, Hagans, Line, Miss Maloney, Miss Dunlap and Miss Euans. There must of necessity be much repetition of our recent written report published in the October number of the *Journal of Surgery, Gynecology and Obstetrics*, but it is by the consideration and the discussion of the results of different investigators that the real value of a work and its truth can be established. The primary object of the laboratory was to determine the therapeutic value of bacterial vaccines and the value of the opsonic index as a guide in their administration. Many of the problems we have

* Read in Symposium on Opsonins before meeting of Chicago Medical Society, Oct. 30, 1907. For discussion see page 89.

taken up have been verified not only in the different departments of our laboratory, but in many other laboratories.

From the department of tuberculosis I wish to give brief statements of data and conclusions arrived at from tuberculin treatment as guided by the opsonic index.

THE OPSONIC INDEX AS A GUIDE IN THE ADMINISTRATION OF (TUBERCLE)
VACCINE.

A total of 2,500 tuberculo-opsonic index estimations have been made on 180 individuals, of whom 40 were cases treated, 35 for diagnosis and 105 were normals. A study of the record cards of the patients treated with tuberculin will show that there is no marked variation among the patients as to the time and degree of opsonic reaction; in other words, that each patient is not a law unto himself as to the average number of days between injections, the average highest opsonic index after injections, nor as to the average opsonic index previous to each injection. Hence we may determine the following averages:

1. The average number of days between injections was 7.
2. The average of the highest opsonic indices was 1.3.
3. The highest opsonic index occurred on the average between the third and fourth day.
4. The average of the opsonic indices previous to each injection was 1.0.

Such a comparison has a certain value in establishing a standard upon which to base the vaccine therapy, but taken alone it will give an erroneous idea of uniformity of treatment of patients. While there is a tendency toward similarity in reaction and in the time of the vaccine injection during the course of the treatment of a patient and of the different patients, there is too much variation to warrant dependence on any such standard. This is brought out in a striking way in a table showing the extremes of intervals between injections.

From our examinations of opsonic indices we have found it impossible to establish a standard interval between injections. We can, however, conclude from our data that it is possible to maintain the index at or above normal, if the vaccine is given when the opsonic index has dropped on the average to 1.0. That is not our only guide. The degree of reaction, that is, what the maximum index was, how soon it appeared after the injection, and whether there was a gradual or a sudden drop to normal or below, are additional aids in determining the dosage and the time of administering the vaccine.

CONCLUSIONS TO BE DRAWN FROM CHART CURVES OF OPSONIC INDICES.

The charts of curves of each opsonic index demonstrate the following points:

1. There is, with very few exceptions, a rise in the opsonic index after each injection of vaccine.
2. With one exception, there are no two successive maximal rises in the opsonic index after the injections.

3. There is a tendency toward a monthly maximal opsonic index.

The charts of the curves of the weekly average opsonic index accentuate some of the features merely indicated in the daily curves.

1. There is a step-like rise of the index to the second and third month, when the maximum is reached, to be followed by a drop to a lower average maintained above normal.

2. There is an individuality about chart curves as to the maximum index.

3. There are classes of cases that show a rapid rise to the maximum index.

4. There are classes of cases that show a low maximum and small range of the opsonic index.

VALUE OF THE OPSONIC INDEX IN DIAGNOSIS.

In a total of 350 opsonic indices of normal individuals the range of the indices, with very few exceptions, was 0.8 to 1.2. On the other hand, the average of the opsonic indices of 40 patients before treatment was found to be 0.68 and the range from 0.3 to 0.9. Of 75 cases examined, 40 being cases treated and 35 for diagnosis, there were 4 cases whose clinical diagnosis and opsonic index diagnosis did not agree. We have then a normal tuberculo-opsonic index: we have found our tubercular patients to have an average opsonic index before treatment below normal, and we have found that 95 per cent. of the opsonic index diagnoses agreed with the clinical diagnosis.

I wish to emphasize the fact that a single examination of the opsonic index is of very little value. A series of positive indices, e. g., with an average below normal, is of positive significance; a series of negative indices, e. g., within the normal range, does not necessarily mean there is no tubercular infection.

THE TUBERCULO-OPSONIC INDEX TO THE HUMAN VS. THE BOVINE TUBERCLE BACILLUS.

The question of the infection of patients with bovine tubercle bacillus came up in one of our cases of tubercular peritonitis. The patient was a colored girl 13 years old. An exploratory operation confirmed the diagnosis of general peritoneal tuberculosis. The tuberculo-opsonic index to the human tubercle bacillus was persistently normal in this case, but to the bovine was below normal. In the treatment a vaccine of the human tubercle bacillus was used in the hope of raising the index. From a study of the curve of the opsonic reaction chart it will be seen that the index to both the human and bovine tubercle bacillus rose after each injection, but that the curve of the human does not correspond exactly with the curve of the bovine. In other words, the index to the human tubercle bacillus is not always high on the same day as that of the bovine. It would appear, then, that the vaccines of closely related micro-organisms can stimulate the formation of opsonins to these different micro-organisms.

To learn whether the tuberculo-opsonic index to the human and bovine tubercle bacilli did or did not correspond in other patients, examinations were made comparing at the same time the index to the human and the bovine. It was found that where the tuberculo-opsonic index to the human tubercle bacillus was below or above normal the tuberculo-opsonic index to the bovine tubercle bacillus was normal.

LABORATORY TECHNIC AND ITS RELIABILITY IN OPSONIC INDEX DETERMINATIONS.

The question of accurate laboratory technic is of fundamental importance when one considers how much the value of the vaccine therapy depends on the laboratory work. Some of the discrepancies in results from the various laboratories I believe were due to differences in points of technic, especially with reference to the emulsion, the number and distribution of the leucocytes and the standard of counting. It is possible to obtain an emulsion of tubercle bacilli nearly free from bacterial clumps and of sufficient strength. Thorough grinding of the dried bacilli and shaking with salt solution in a shaking machine will very successfully break up the bacterial clumps. After diluting the emulsion to the required strength it can be drawn into small capsules and sterilized. This method of preparing a large quantity of emulsion at one time avoids the necessity of daily preparations and gives one an emulsion of standard strength. Care in the uniformity of smears, in the obtaining of an emulsion of proper strength and a rigid adherence to a standard of counting will give average uniform results in opsonic index determinations by the same and by different individuals.

CONCLUSIONS.

1. There is a normal tuberculo-opsonic index.
2. Of the seventy-five cases examined for diagnosis the clinical and the tuberculo-opsonic index diagnosis agreed in 95 per cent.
3. The opsonic index is a valuable guide in the administration of the tubercle vaccine.
4. In summing up the data obtained by us as to the reliability of the opsonic index determinations there are three striking results that present themselves:
 - (a) The comparatively small difference in the counts made by different individuals of the same slides.
 - (b) The small range, e. g., 0.8 to 1.2, of the opsonic index of normals in over 350 examinations. It would seem impossible to obtain such comparatively uniform indices with an unreliable technic.
 - (c) The generally consistent opsonic indices, e. g., such as one would expect to follow vaccine injections in over 2,000 estimations.

VACCINE THERAPY IN STAPHYLOCOCCUS INFECTIONS.*

GRACE FRITH-HAGANS, M.D.

CHICAGO.

The interest centering around the opsonic treatment of acne, furuncles, abscess, etc., leads me to mention first the vaccine, its dosage and administration. Instances have been reported where an initial dose of 1 to 2 cubic centimeters of a two weeks' bouillon culture of staphylococci were given, the following injections being increased by the minim or cubic centimeter and not by the number of organisms. If all staphylococcus stains would grow in precisely the same manner under similar conditions, namely, heat, period of incubation and media, it would be a simple matter to give the vaccine by bulk, but this is not the case. Some growths are luxurious and rapid, while others are thin and slow, and the same strain will not multiply twice exactly alike under similar conditions. Even to the naked eye this fact is plain. I have in mind one strain especially isolated from a case of acne which grew in minute colonies at first and later in very thin streaks on agar and caused only the slightest cloudiness in bouillon after several days' incubation. To make positive the above statements four test tubes, each containing 8 c.c. of bouillon were inoculated on the same day with different strains of staphylococci from Cases *a*, *b*, *c* and *d*. Then two more cultures were made from *c* and *d* respectively. The six tubes were then placed in the incubator. At the end of fourteen days each tube was sealed and shaken vigorously for forty minutes to break the clumps of bacteria. Smears of well mixed equal measures of blood and each culture were made and the number of red cells and bacteria in eighty fields counted in each case. Knowing there are 5,000,000 red cells to a cubic millimeter the proportion red cells : bacteria : : 5,000,000 : *x* is made and the thickness of each culture calculated. The results showed a difference of 3,000,000,000 organisms between the thickest and thinnest of the cultures. Hence if a dose of 2 c.c. of these had been given, there would have been a variation of 6,000,000,000 staphylococci. The difference between the two cultures from Case *c* was only 120,000,000, but in Case *d* the difference was 2,250,000,000 per cubic centimeter, which is twice the average dose. Therefore, to repeat: All strains do not grow with equal rapidity; the same strain does not grow twice alike under similar conditions; an increase in volume does not necessarily mean an increase in dose of unstandardized preparations. Hence to start with a small dose and to increase it when necessary, as with any drug, and to be positive that it is increased when more volume is given, there is but one way to prepare the vaccine and that is to count the organisms.

An initial dose consists of from 500,000,000 to 1,000,000,000 staphylococci, increasing 500,000,000, as indicated by the failure of the index

* Read in Symposium on Opsonins before meeting of Chicago Medical Society, Oct. 30, 1907. For discussion see page 89.

to rise after an injection; 3,000,000,000 is the largest dose given so far. The reaction is slight, in most cases consisting of some local soreness, redness and stiffness lasting from one to three days. Three cases have reported general malaise following injections, but the majority do not complain beyond the local effect, which decreases as the treatment progresses. The site nearest the lesion is selected for inoculation if possible. Between the scapulæ or in the loose tissues of the abdomen are desirable places, but many patients come to the laboratory for treatment, so the arm is often chosen for the sake of convenience.

The acute cases and to begin the treatment of chronic cases a stock vaccine has been used in many instances until an autogenous vaccine could be made. Barring accidents (which are manifold) the bacteria can not be isolated, grown, washed off the media, counted, sterilized and a portion of the finished product planted on agar to prove its sterility within a shorter period than eight or nine days. Thirteen of our cases have received from one to three inoculations of stock vaccine as preliminary treatment, the index going to 1.3 in one case, 1.4 in two, 1.5 in two, 1.6 in two, 1.7 in one and 1.9 in another case, leaving only four instances showing no appreciable rise. Five cases of acute and one of chronic furunculosis have been treated entirely with stock vaccines, three of which received two injections each, with most satisfactory results; the fourth (a dispensary patient) was improving, but failed to report his final condition, and the fifth showed no unusual tendency to a more rapid recovery than under ordinary treatment. The chronic case has just reported the appearance and disappearance of a lesion starting in similar manner to former furuncles, without the formation of pus. At present a case of acne is being treated with a stock vaccine with the purpose of ascertaining whether the clinical results will be as satisfactory as those of cases receiving autogenous vaccines; she has received five injections and the face is considerably clearer.

In mixed infections it is important to isolate the germs and make separate vaccines, which should be given independently of each other, the blood being run through to each organism and treatment administered when indicated by the fall of the index. Two patients have received tubercle, pyocyaneus, colon and staphylococcus vaccines in this manner, and two are receiving tubercle and staphylococcus injections. That the opsonins are specific is easily seen by looking at the charts of these patients showing the different curves. The administration of the vaccine of one organism has no effect upon the opsonins toward the other organism, the index to one bearing no definite and uniform relation to that of the other; one may be high and the other low on the same day, or again there may be a simultaneous rise of all the indices.

I wish to conclude by saying that Dr. Lincoln, Dr. Vail and myself desire to jointly thank Dr. McArthur and Dr. Hollister for making it possible to carry on this work and to express our appreciation of their encouragement toward independent investigation.

BACTERIAL VACCINE THERAPY IN GONORRHEA.*

RUTH VAIL, B.S., M.D.

From the Private Laboratory of Dr. L. L. McArthur and Dr. J. C. Hollister,
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CHICAGO.

It is my purpose to discuss:

1. A few points of technic used in determining gonococco-opsonic index.
2. The making of gonococcus vaccine.
3. The normal and the pathological gonococco-opsonic index, and the relation between the phagocytic index and Wright's bacillary index.

ISOLATION AND CULTIVATION OF THE GONOCOCCUS.

The isolation of the gonococcus is the first difficulty which confronts the laboratory worker. Although the diagnosis of a gonorrheal infection may be positive, the gonococco-opsonic index low, and smears show many intracellular bean-shaped, gram negative diplococci, nevertheless a dozen or more tubes of media may be inoculated with the gonorrheal discharge in question and no growth be obtained. The very fact that there is no growth, when we know there are many diplococci present, clinches our diagnosis but interferes seriously with our object in view, viz., the preparation of an autogenous vaccine. I have found the most satisfactory media to be, 1, ascitic agar; 2, human blood agar. The gonococcus grows equally well on either, the advantage of the latter being that it is always available, while at times the demand for ascitic fluid seems to far exceed the supply. After isolating the gonococcus transplantation every twelve to twenty-four hours, although not necessary to its existence, greatly aids in maintaining its luxuriant growth and in avoiding involution forms, and a deposition of extra cellular substance, which renders it difficult to break up clumps, and interferes with clear staining.

Gonococci grow well at 37.5 C., but at 39° they grow larger and with much less clumping.

THE EMULSION.

The tendency of gonococci to clump has been a serious drawback in the preparation of the emulsion and in counting the vaccine, but some strains which show a vicious obstinacy to clump lose this characteristic when grown at 39 C. In preparing a quantity of emulsion a twelve to twenty hours' growth on ascitic or blood agar is removed into a small test tube of sterile 1.5 salt solution, the tube sealed and shaken in the shaking machine for one-half to three-quarters of an hour. This suspension, which contains practically no clumps, is then diluted to any desired strength and placed in sterile capsules, such as Dr. Lincoln

* Read in Symposium on Opsonins before meeting of Chicago Medical Society, Oct. 30, 1907. For discussion see page 89.

has used in her tbc. work. These capsules are then placed in the refrigerator, at which temperature the G. C. does in twenty-four to forty-eight hours. The low temperature does not diminish the staining power, while sterilizing at 60° C. for an hour markedly interferes with clear staining. In my daily work I have used an emulsion of a strength giving a bacterial average between 1 and 2 gonococci per leucocyte.

RUNNING THROUGH.

I have found that seven minutes, as used in Wright's laboratory, is the most desirable period of incubation for the following reasons: It gives a minimum amount of time for the cocci to agglutinate, and for the leucocytes to take up clumps; and for the emulsion to settle, which it has a marked tendency to do. The bacterial average rarely varies over .3 or .4 when the same serum is run through twice with an interval of seven minutes; with an interval of twenty minutes, the range may vary from .5 to .8 of a point. It is therefore advisable that the interval between running through the pool and the patient's blood be not longer than seven or eight minutes.

The importance of making similar smears is obvious. In counting, the personal equative is necessarily an important factor—the person who counts the patient's slide should of course count the pool—but I should like to mention here that in independently counting series of slides numbered by a third person Miss Euans and I, with only an occasional exception, obtained bacterial averages varying only from .2 to .4.

GONOCOCCUS VACCINE.

In the preparation of the vaccine one tube of ascitic bouillon or human blood bouillon is inoculated with gonococci and incubated forty-eight hours. From this growth one-half dozen large test tubes of ascitic or blood agar are inoculated by pouring about $\frac{1}{2}$ c.c. into each tube and allowing the bouillon to slowly flow over the surface. These are incubated twenty-four to thirty-six hours. Then to each is added enough normal salt to facilitate removal of the growth. The growth may be so adherent as to require the aid of the platinum needle in removal. For this reason test tubes are used instead of flasks as in the preparation of staphylococcus vaccine. The suspension is then poured from each tube of agar into one large sterile test tube, which is sealed and shaken in the shaking machine for about three-quarters of an hour. A portion is then removed for standardizing, according to Wright's method, the tube resealed and sterilized by placing in water at 58° C. for an hour.

DOSAGE.

Ten million to 15,000,000 is the average dose we have used in adults, 4,000,000 to 10,000,000 in children, 2,500,000 the minimum dose, 20,000,000 the maximum dose.

We now come to the discussion of the normal and the pathological indices and the relation between Wright's bacillary index and Simon's percentage index, which we have called the phagocytic index. I do not wish to take up your time with long tables and charts, but will briefly present to you the following conclusions, drawn from eight months' work with the gonococcus:

1. In 300 determinations the gonococco-opsonic index in normal individuals ranged from .8 to 1.2 with only eighteen exceptions.

2. In one determination each of fifty-one different normal individuals the opsonic index ranged from .8 to 1.2 with only two exceptions, one being .7, another 1.4.

3. In twenty-seven patients examined from two to ten times each the diagnosis was positive in 89 per cent. Therefore, a normal index does not rule out gonorrhea, but no patient showed a consistently low index in whom the gonococcus was not identified.

4. The chronic cases show a tendency to run a lower index than the acute cases, in the majority of cases .8 or below. (In the thirteen chronic cases examined 70 per cent. gave an opsonic index below .8, 30 per cent. .8 or above. In the eighteen acute cases $37\frac{1}{2}$ per cent. were below .8, $62\frac{1}{2}$ per cent. .8 or above.) Case 32 showed a decided exception to this tendency. The case was diagnosed clinically chronic gonorrhea, but the first index was found to be 2.4. The following day gave an opsonic index of .6. Then no blood was received for five days, when word came that the patient was running a temperature of 104° and too ill to be disturbed to take the blood. Clinical diagnosis, gonorrheal pycelonephritis. The auto-infection of the patient showed, therefore, in the blood five days before it was discernible clinically. Case 25 also showed an index illustrating an auto-inoculation. The case was diagnosed clinically gonorrheal arthritis; gonococci were identified in the profuse urethral discharge. May 15, 16 and 18 gave the indices .6, .8, .9. On the 20th I found the index to be 2.0 and learned that on the 19th the knee joint had been opened and drained.

5. The phagocytic index runs closely parallel to the bacillary index in normal individuals. This is true in gonorrheal patients before vaccine treatment is begun.

6. After thirty-six injections the phagocytic and bacillary indices reached their highest points on the same day in $94\frac{1}{2}$ per cent.

7. The average highest phagocytic index is lower than the average highest bacillary index.

8. The phagocytic index tends to fall earlier than the bacillary index. Therefore the phagocytic index, although it may tell us when to repeat the vaccine, does not guide us so well in determining the size of the dosage.

9. In a series of fifty-two gonococcus vaccine injections only two were followed by negative phases in the opsonic index. I have seen no clinical negative phases.

10. We cannot yet draw clinical conclusions from the results of gonococcus vaccine.

The majority of the patients treated were from the Alexian Brothers Hospital, and I wish to thank Dr. Louis Schmidt for his assistance in making it possible to study the blood of these patients. All were improved and some cured, but besides the vaccine treatment they received the routine hospital gonorrheal treatment. Two cases of vulvo vaginitis in children have received the vaccine treatment alone. One child had received other treatment for a month before coming to us, the discharge showing no decrease. After one injection the discharge was markedly diminished, and after the second, given May 25, there has been no visible discharge. Smears have been made after each injection every ten days to three weeks. Two successive examinations may show no gonococci and the next smear show a few gram negative diplococci.

You may be interested to see the method we use in shaking our vaccines and emulsions. With the assistance of Mr. C. F. Adams I designed this instrument, which promises to save time and energy as well as give more satisfactory results. The machine runs with about 1,200 vibrations per minute, and the holder now contains a sealed test tube of vaccine ready for shaking and a capsule of tubercle emulsion.

CLINICAL RESULTS AND CONCLUSIONS.*

J. C. HOLLISTER, M.D.

CHICAGO.

As an introduction to some clinical conclusions we would like, if you please, to report three cases representing three different types as follows:

1. Chronic staphylococcus infections, clinically characterized by boils, furuncles, glandular abscesses, nail infections, etc.
2. Localized tuberculosis complicated by secondary infections.
3. Chronic generalized tuberculosis.

These are picked cases, so to speak, and illustrate clinical results obtained by vaccine therapy so definitely that there is no doubt but that the conclusion must be made that the result was due to the treatment. We all know only too well how many factors and conditions and sources of error there are between cause and effect, between treatment and cure, and especially must care be taken not to be hasty and superficial in drawing conclusions when we are dealing with a comparatively new line of procedure.

The first case gives the following history:

Woman of about 33 years of age. Has had some twelve or thirteen boils in right axilla covering a period of eighteen months. Many smaller furuncles and boils on arms, breast, navel, left ear—in fact has not been free from some such

* Read in Symposium on Oponins before meeting of Chicago Medical Society, Oct. 30, 1907. For discussion see page 89.

manifestation for one and one-half years. Nail infection some months ago of index finger. Examination at beginning of vaccine treatment disclosed: (a) Small inflamed tender swelling in right axilla. (b) Suppuration under and about root of nail of ring finger of the left hand.

Injections began August 19, as shown by the chart. During the next 12 or 15 days three boils developed in axilla and on arm. These disappeared much more quickly than usual and no evidence of localized infection has appeared since, i. e. for a period of two months. She has had six injections of staphylococcus vaccine, four of which were from an autogenous culture. The index was low before injections, .6, and has been kept up to normal or above ever since.

The second case is one the incomplete record of which has been given for publication before. She has been under Dr. McArthur's care for many years:

A woman, aged 33, who, for tuberculosis of the left kidney and ureter, has undergone a nephrectomy, ureterectomy and vesico-vaginal drainage for vesical tuberculosis; later, a right sided nephrotomy and a final drainage of the right ureter through right loin. Intervals of a year or more between operations. When injections were begun in September, 1906, the condition was extremely critical as shown by marked emaciation and weakness, large sacral decubitus, toxic neuritis of both lower extremities. Hope of recovery abandoned. Soon after administration of the vaccine improvement was noted and after remaining in the hospital some seven months, returned to her home. She received besides tuberculin, autogenous vaccines of colon bacillus and staphylococcus, which organisms were found in abundance in the wound discharges.

The condition to-day is as follows: Right kidney drained by tube. Old persistent fistula to left ureteral region still discharging considerable pus. Vesico-vaginal fistula not as yet repaired. Ankylosis of right hip joint. Marked gain in weight and strength. Able to walk down stairs and across the street into a neighboring park. Appetite excellent and mentality very active. There seems to be no doubt but that life was saved in this case.

The third case is that of a young man who has kindly consented to be present at this meeting for your examination and is especially interesting because he has been examined from time to time by three other investigators, whose accurate clinical reports they will themselves give. The patient came to Dr. Dodds for some "eye trouble" (Dr. Dodds will report his findings). The patient was then referred to Dr. Lucius Pardee for skin diagnosis and treatment. Dr. Pardee referred him to us as a case for vaccine therapy, and as there were some lung findings Dr. Keating was asked to make careful note of what pulmonary changes occurred, if any. Drs. Pardee and Keating will also report directly.

Permit me first to give an outline of the history of the case and to speak particularly of the glandular and testiculo-epididymal aspects:

Male, 24 years of age. Carpenter. Has never been well and strong. Some chronic abdominal distention until 13 years of age. A nasal catarrh has persisted for the last few years each winter. The skin eruption began in January, 1907; soon after the eye symptoms appeared. Examination early in April, 1907, disclosed besides the eye and skin condition a marked enlargement of both parotid gland regions. The right side, size of small egg, was very hard and slightly nodular, giving a sensation of grating to the touch. The left side was also hard and somewhat smaller; no tenderness, no pain, slightly movable. Objectively

it was difficult to decide whether the parotid glands themselves or the parotid clusters of lymphatics were involved in a neoplasm or inflammatory condition. Other smaller glandular swellings could be felt along the sterno-cleido-mastoid of the right side.

June 19, 1907: Parotid swelling distinctly reduced in size. Attention was called by patient to a swelling in the scrotum. Examination revealed: Right testicle swollen considerably, right epididymis, upper pole very hard and swollen; lower pole very hard and nodular; cord is nodular; left testicle of normal size. Left epididymis very hard and nodular but not so large as right; no pain, no tenderness, probably has existed for some time.

July 5: Parotids very much smaller; small cluster in submaxillary region smaller. Both epididymes seem somewhat less hard; right a little tender.

July 30: Testicles appear normal in size. Right epididymis lower pole soft but still thick. Left side just palpable, no tenderness.

September 3: Parotid region negative; in submaxillary region glands still palpable. Right epididymis, nodule upper pole, separate, size of pea, a similar nodule over lower pole, no tenderness. Left side, smaller nodule upper pole which is tender, lower pole negative.

September 16: Patient reports not feeling so well; thinks he has had temperature at night and a persistent nasal catarrh. Advised to stop work and record temperature and crowd diet.

October 14: Temperature of 99 2/5 is highest recorded in two weeks, one of 99 1/5 and one of 99°, all other evenings normal. Parotids normal. Small mass under angle of jaw as before. Right epididymis showed bean-sized soft mass at upper pole, smaller mass lower pole.

October 30: Glands in neck and parotid regions scarcely palpable. Scrotum, right side, soft thickening at upper pole, and same but smaller at lower pole. The former hardness has entirely disappeared. Left side, nothing to be felt at upper pole, thickening only over lower pole, quite a cluster of veins up the cord.

As a summary, then, we may say that in a case of glanular and epididymal tuberculosis (diagnosis confirmed by chest findings and histological examination of the skin lesions) marked improvement in both conditions has occurred synchronously with the administration of tuberculin. I will ask the others to give their clinical data of the case at this point.

Dr. Emmet Keating:—This case was referred to me by Dr. Pardee, who made a diagnosis of tuberculosis of the skin. I obtained the following history:

April 2, 1907. Mr. M., Swede; aged 24; single; carpenter. Complaints of cough; chest feels sore; tires easily. Becomes dizzy and dyspneic when he climbs stairs or exerts himself unusually. Has pain in the stomach. Has photophobia, which he states has existed for two months. Pain in right ear; feeling of soreness when finger is introduced into canal. He does not sleep well. Coughs and expectorates during the night. About a tablespoonful of yellowish material is expectorated in twenty-four hours. Has had nasal and throat catarrh for six years. There is an uncertain history of hemoptysis. Four weeks ago had sore throat, which lasted two weeks. He does not remember of having had any of the diseases of childhood, but states that he was delicate and unable to attend school until he was 9 years old. At 13 he again became weak and ill, and was sick for two months. When 18 he suffered acutely from nasal catarrh and cough. Does not use alcohol, and denies venereal infection.

A year ago last December contracted a cold and became too weak to work. Took eggs and milk for a month; gained fifteen pounds and felt entirely well. Usual weight, 158. Thinks he has lost weight since January of this year. Appetite is poor. Bowels regular. Had night sweats six weeks ago; also last winter. Pulse 104, temperature 99.2.

Family History.—Father and mother living and well; ages 52 and 48. Four

brothers and two sisters living and well. Two brothers died at the age of 3, one of scarlet fever, the other cause unknown.

Physical Examination.—The hair is thin and presents a dead, greasy appearance. Right pupil is widely dilated (atropin). The face presents an erythematous blush and is studded with small elevations a little larger than a pinhead. The erythema is more pronounced upon the forehead. Left nostril is occluded by an enlarged inferior turbinate. There is a red line at the margin of the gums. The teeth are straggling and discolored. The tongue is slightly coated. Tonsils are quite small. Posterior wall of pharynx presents a dry, glistening appearance and is studded with a number of small crusts. There is a discrete papular eruption over the entire body. The hands and feet are cold and clammy. Chest: Marked retraction beneath both clavicles. Decreased expansion of left side. Deep inspiration induces cough. Vocal fremitus negative. Right side, anteriorly, dullness extends from apex to lower border of third rib. Bronchial breathing over entire surface of right lung. A few crepitant râles are noted. Posteriorly, dullness extends from apex to inferior angle of scapula. Bronchial breathing from apex to upper border of sixth rib. Pectoriloquy over greater portion of latter area. Friction sounds between third and fifth rib right axillary line. Left side, anteriorly, slight dullness beneath clavicle; breath sounds but slightly altered; blows of percussion hammer beneath clavicles cause pain. Posteriorly there is bronchial breathing between seventh and eighth ribs; friction sounds, left axillary line over fourth rib. Heart: The heart is not enlarged or displaced. The valve sounds are indistinct, the aortic especially so. Abdomen: There is tenderness over entire abdomen, more marked upon right side, and extending upward over area of liver. The urine was not examined. Tubercle bacilli were not found in sputum.

Diagnosis.—Pharyngitis sicca; pulmonary tuberculosis; passive congestion of liver; subacute gastritis; general subacute peritonitis; tuberculosis of skin (Pardee); of conjunctiva (Dodds).

The patient returned for examination of chest Aug. 9, 1907. Weight, 152; pulse, 87; temperature, 99.2. Retraction is noted beneath both clavicles. Vocal fremitus negative. Right side anteriorly, flat percussion note from apex to upper border of second rib; slightly higher note to upper border of third rib; right axillary line high percussion note from axilla, shading into liver dullness below. Anteriorly the inspiratory note is harsh and base in character from apex to lower border of second rib. Below this level inspiration is limited and expiration insufficient in volume. Right axillary line presents same condition as noted anteriorly below second rib. Posteriorly, the percussion note is dull over entire lung area; pronounced bronchial breathing gradually diminishing from apex to lower angle of scapula. Respiratory volume below above point is small. No râles. Left side, anteriorly, percussion note high from apex to upper border of fourth rib. Left axillary line, high percussion note from axilla to base of lung. Posteriorly, flat note from apex to spine of scapula, then dull shading to normal as fourth rib is approached. Anteriorly, auscultation shows inspiratory note that is jerking and whistling in character from apex to third rib; axillary line, both inspiration and expiration, are very indistinct. Posteriorly, slight bronchial breathing from apex to spine of scapula; remaining lung surface, both inspiratory and expiratory sounds are diminished and indistinct. The heart is normal, except for slight tachycardia.

The patient came in to-day, and I find him with a pulse of 84 and a temperature of 99.2; weight, 167. The chest findings are improved; tenderness over abdomen absent; no cough or expectoration. The skin is clear and the patient states that he is feeling good. I consider that this patient has made most excellent progress towards recovery, but do not think that the improvement is more marked than in those cases which receive medicinal treatment. From what we have heard to-night we can readily infer that this form of treatment requires a laboratory force that the general practitioner does not have at his command. With this

in mind, we should not grow lax in our hygienic and medicinal treatment which has accomplished so much.

Dr. Oscar Dodd:—The case to which Dr. Hollister has referred came to me the first of April, complaining of trouble with his eyelids and eyes, which had lasted for two or three months, and had been treated by an oculist for trachoma. Upon examination I found that both lower eyelids were considerably inflamed, with a follicular infiltration, looking very much like trachoma. These were slightly yellowish, with a little ulceration at the upper part of some of them, and considerable secretion. These small points of infiltration extended over the border of the lid and were continuous with the skin lesion, so that I concluded it was of the same nature and advised the patient to see a dermatologist in regard to it. The eye trouble is one which has been described as a mild form of tubercular conjunctivitis. It is quite uncommon, and I should not have been able to have determined it from the clinical picture alone. From the subsequent diagnosis of the skin lesion and its improvement under the tuberculin treatment I concluded it was tubercular.

Dr. Pardee:—This case was referred to me March last by Dr. Dodd for diagnosis of the skin lesions then present. At that time the conditions were as follows: The face was the site of a mixed eruption somewhat eczematous in character but not eczema; nor was it typical of any definite dermatosis, being possibly due to an application the patient had been making before he came to Dr. Dodd for treatment. This disappeared promptly under mild antiphlogistic treatment. Upon the body and limbs, especially upon the extensor surfaces of the arms and legs, were found groups of lesions which were unmistakably those of one of the so-called tuberculides. These lesions were pinhead-sized papules, pinkish red in color, slightly elevated above the skin surface and capped with thin scales. They occurred in groups of from 10 to 15 and were apparently connected with the hair or sweat follicles. Beneath some of the groups of lesions a small nodule could be felt. No subjective symptoms were present. I made the diagnosis of folliculitis and referred the patient, with Dr. Dodd's permission, to Dr. Hollister for the vaccination treatment.

Before the treatment was started the patient was exhibited by me before the Chicago Dermatological Society, whose members concurred in the diagnosis. A group of nodules upon the arm was excised and prepared in the usual ways. Sections of this show what are apparently typical tubercles, consisting of giant cells, epithelioid cells, and leucocytes in the usual tubercular arrangement located near the sweat ducts and hair follicles, especially the former. So far no bacilli have been found in the tissues.

One point of interest occurred after the first or second injection of the tuberculin in that each group of lesions became raised as a whole, to a considerable extent above the general skin surface and somewhat reddened and tender. When these symptoms subsided the papules had nearly disappeared, leaving brownish pigmented spots, which are now present on the legs and to a very slight degree on the arms and buttocks. No local treatment or internal medication was given by me during his vaccination course, except placebos and general tonics.

I think you will all agree that there has been cause and effect in the three cases reported.

Now, as to general clinical results: What can we say as true to-day as to the actual value of bacterial vaccine therapy? It seems to me that the following conclusions are quite conservative:

1. Inoculation by autogenous vaccines, if properly administered and regulated as to dose and interval by following the opsonic index, is one of the best—if not the best—methods to-day of curing and preventing the recurrence of chronic staphylococcus infections such as boils, furuncles, etc. Such treatment should never be omitted even if given synchronously with other recognized means of relief.

2. In the treatment of chronic acne, injections of autogenous vaccine of staphylococcus often brings about a cure and in the majority of cases is attended by marked improvement. We have thoroughly treated some five cases. In none of them have we failed to obtain either improvement or cure. One must not forget, of course, that much bacterio-etiological research is necessary under the head of "acne."

3. In chronic localized tuberculosis, such as is illustrated by tuberculous inflammations of bones, joints, urinary tract and glands, the administration of tuberculin as guided by the opsonic index is frequently of distinct value, acting not only as a general tonic but hastening local tissue repair. This we can say in spite of the fact that the ten picked cases of bone and joint tuberculosis selected about a year ago at the Home for Crippled Children do not show to-day distinct definite improvement over ten similar cases under like conditions but who have not had tuberculin. It is yet, of course, too early for us to draw final conclusions in such cases.

4. Judging from the cases reported in literature and from our own rather limited clinical experience in these lines we may say that occasional marked results one may expect in chronic localized infections by the colon bacillus (cystitis, pyelitis, etc.) and by the gonococcus (arthritis).

As a final remark I would like to ask the following question: Are we as surgeons doing as much as we can and should in our cases of surgical infections to build up the immunity strength of our patients, by vaccination, by inoculation, by hyperemia, by injections of horse serum of nucleinic acid and administration of such substances as will increase or decrease the coagulability of the blood?

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A NEW MODIFICATION OF THE PRIMARY POSITION IN THE BLOODLESS TREATMENT OF CONGENITAL HIP- JOINT DISLOCATION.*

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CHICAGO.

Since Paci, in the beginning of the nineties of the last century, called attention to the possibility of treating the congenital hip dislocation merely by manipulations, and Lorenz furnished the proof that this deformity is amenable to a cure by the administration of a clean-cut technic of reposition, the progress of this problem was watched very carefully by the whole profession.

As a direct result of this fact there is a vast and increasing literature dealing with this subject. A large number of these publications deal with modifications or improvements of the method described originally by Lorenz, a fact which illustrates that the results gained by the orig-

* Read before the Fifty-seventh Annual Session of the Illinois State Medical Society, May 21-23, 1907.

inal Lorenz method do not come up to all expectations, as far as a complete cure is concerned. The different statistics published on this subject have only problematic value, as quite often the figures giving the percentages of recoveries of the joint are too low.

The most favorable statistics, however, do not show more than 50 per cent. of restitutions of the joints, while a little more than 40 per cent. of anterior redislocations are obtained, or, as they are often called, subspinal positions. These subspinal positions form a much less desirable result than the anatomical restitution of the joint, as the head of the femur is not enclosed in the socket but located just above the socket, beneath the anterior superior spine of the os ilei, on the anterior surface of the pelvis. This position naturally involves some shortening of the leg operated upon; in case the shortening is compensated either by a high sole or by tilting of the pelvis, the patients are very much improved as far as the gait is concerned. There is, however, the danger that this improvement of the gait or, as Lorenz calls it, "functional result," may be only a transitory one, on account of the fact that the femur head has quite often the tendency to change its temporary quarters beneath the anterior superior spine and to slip gradually backward to the posterior surface of the pelvis. This danger is the reason why a great many orthopedic surgeons in opposition to Lorenz did not call such results "satisfactory," but tried to avoid them by introducing some modification into the standard method described by Lorenz.

Investigations into the pathological anatomy of the congenital hip joint dislocation furnished the explanations of the mechanics of the production of the subspinal positions. Especially the early publications of Lange and Schede dealt with this subject. Lange's conclusions are in brief as follows: A very marked anatomical change which is almost always present in all cases of congenital hip dislocations comprises the angle of inclination between the neck of the femur and the shaft, which in normal cases is about 135 degrees. In cases of congenital hip dislocations this angle is found either increased or decreased, similar to the increasing or decreasing of this angle, which we find in cases of coxa valga varus. The angle of twisting of the femur neck, that is, the angle which is formed by the axis of the neck and the horizontal axis of the femur condyles (seen in a vertical projection) is mostly found increased. In extreme cases it is nearly 90 degrees. Thus the femur neck, instead of facing the socket as in normal cases, looks straight forward past the socket in such cases of congenital hip dislocations, whenever we place the thigh in the normal position of the erect standing person. From this Lange concludes that the only fit primary position, that is, the position in which the cast should be applied, should be a medium abduction with intrarotation of the thigh.

These anatomical explanations cover in general the anatomical foundations of our paper, and very little has to be added with regard to the conditions of the socket and the capsule. As we know, the socket is shallow in most of the cases. The capsule covers the empty cavity tightly, leaving an entrance only in the posterior superior quadrant of

the socket. In this way a pocket-shaped recess is formed by the socket and capsule spoken of in the German publications as "*Pfannentasche*." As its entrance lies in the posterior superior quadrant of the socket, the axis of the recess goes from above behind and sideward to down in front and inward. Around the entrance of the recess, which is formed in its anterior part by the capsule fibers and in its posterior part of the upper rim of the socket, the funnel-shaped upper part of the capsule is inserted which covers the head. In older cases the narrow part of the capsule, which corresponds to the entrance of the pocket-shaped recess, is also often described as the hour-glass-shaped contracture of the capsule. The idea of curing any given case of congenital hip-joint dislocation is to pass the head of the femur through the entrance of the pocket-shaped recess and to keep it within the socket or the pocket-shaped recess of the socket.

The first problem, the passing of the head through the entrance of the pocket-shaped recess, has been solved by the various methods of reduction, the most popular one of them being Lorenz's method of reducing the head of the femur over the posterior rim of the socket. The second proposition, the securing of the head of the femur within the socket, is satisfied by placing the thigh into the so-called primary position, and keeping the thigh in this position by means of the plaster-of-Paris cast. The well-known primary position which Lorenz advocates consists in a rectangular abduction of the thigh, where the interior condyle of the femur faces the frontal plane.

In discussing the value of any primary position we must admit that its value depends only upon the degree of security with which the head of the femur is imbedded into the socket, the pocket-shaped recess. In doing this we have also to reckon with the pathologic anatomic changes of the upper end of the femur. A brief consideration shows, then, that the Lorenz primary position meets the foremost requirement, that is *security* only in cases where the upper end of the femur shows but slight twisting of its longitudinal axis, and that the Lorenz primary position necessarily creates the subspinal positions in cases where the twisting of the upper end of the femur is more pronounced.

A practical example will illustrate these conditions clearly. Let us suppose that we have to deal with a thigh the axis of the neck of which is twisted for about 90 degrees against the axis of the femur condyles. We grant further that reduction has been accomplished, and force now the femur head into the Lorenz primary position, the rectangular abduction, where the interior condyle of the femur faces the frontal plane. The twisted neck of the femur necessarily runs in a more or less vertical direction nearly parallel to the axis of the body. Resuming what we said about the axis and the entrance of the pocket-shaped recess, we find that the femur head can not possibly stay in the socket or the pocket-shaped recess after the placing of the thigh in the Lorenz primary position. The explanation of this fact is easily understood, if we bear in mind that the head and the neck of the femur can only be introduced and stay in the pocket-shaped recess if the axis of the neck of the femur

and that of the pocket-shaped recess run in the same direction. This problem is perfectly solved by making the reduction, when we bend the thigh reetangularly, rotate it slightly inward, extend it and press against the trochanter, thus pushing the head of the femur into the pocket-shaped recess.

After the placing of the thigh in the Lorenz primary position, however, we find that the axis of the neck of the femur, instead of running from sideward above and behind to down inside and in front, runs from downward straight upward; that is, in an almost opposite direction. Therefore, the Lorenz primary position holds the head of such a femur only with a part of its circumference within the pocket-shaped recess, if at all, and slight mechanical causes may push the head out of its place again. All the jerks, for instance, that are caused by the walking are transmitted by the leg and the thigh to the femur neck, and likewise the rotations of the thigh around its longitudinal axis, which the patient performs in taking steps. These constant injurious impulsions tend to wear off the cartilaginous superior rim of the socket, against which the head of the femur rests, and an anterior superior redislocation forms itself gradually during the time the patient wears the east.

The above-explained mechanical reasons caused me to abandon the original Lorenz primary position and to adopt another one, which answers the mechanical conditions in a better way. This position is the rectangular abduction, in which the knee-cap faces the frontal plane (or neutral reetangular abduction, without rotation). This position is equally applicable for all the different degrees of twisting of the upper end of the femur. In no case of this new primary position a larger angle than 45 degrees is formed by the axis of the pocket-shaped recess and the axis for the femur neck; in average cases, however, not more than 15 or 30 degrees. As in this way the axes of neck and recess differ from each other only a little, and the head of the femur is fully emerged into the pocket-shaped recess. The center of the head *does not look toward the middle* of the Y-shaped cartilage, an aim which is, for instance, intended by all modifications of the Lorenz method that advocate inward rotation, *but looks in my primary position toward the fundus of the pocket-shaped recess*. This fact also differentiates it from all the modifications using intrarotation of the leg operated upon. The right position of the leg is maintained by a plaster-of-Paris east which reaches as far as the ankle joint or in some cases even as far as the toes. Five or six days after the operation the east is cut away around the knee-joint, and a pair of steel hinges are inserted in order to allow the knee-joint all motions.

TECHNIC.

As the modification does not concern the method of reposition, my primary position can be applied in combination with any method of reduction, no matter whether the reposition is made over the superior, posterior or inferior rim of the socket, or whether it is performed by hand or by the use of machines. All the different methods accord in one feat-

ure, and this is the position of abduction into which the leg is placed either during the time of the reposition or at least during the last act of the reposition. If one chooses to use my primary position, this position of abduction is increased until the rectangular position of abduction is reached, and the leg placed in such a way that the knee-cap of the extended leg faces the frontal plane. The rather brutal maneuvers for the widening of the capsule can mostly be omitted, or, if necessary, restricted to a few maneuvers, which tend to increase the abduction. The patient is then placed on the ordinary pelvic support, while the back is supported by a small padded bench. The pelvic plate of the pelvic support should be elevated above the plane of the table for exactly the length of the leg. The thigh of the well side is held by an assistant and pushed downward, whereas the knee-joint of the side operated upon is rectangularly flexed, the thigh well abducted, and the foot placed on the edge of the table. Into the border of the table corresponding to the side operated upon, a nail is driven, to which two slings have to be attached. One of these slings goes around the ankle joint, the other strap around the knee-joint of the leg operated upon. These straps should be tightened as much as possible. In this way the leg of the patient is securely held in place during the application of the cast. The cast covers in this way both slings, the ends of which are carried through the cast.

After the edges of the cast are trimmed, the patients are put to bed in such a way that the leg operated upon hangs over the border of the bed and is supported by a footstool. Five or six days after the operation the cast around the knee is cut away, and the above-mentioned steel hinges are inserted and fastened to the cast by some crinolen bandages. At this time the stretching of the knee is begun. Two or three weeks following the operation the patients are free from pain and begin to walk, or, rather, to take steps with ordinary shoes.

Only one cast is worn during five or six months. After this time some after treatment is administered consisting in some massage. Within a surprisingly short time the abduction of the leg operated upon corrects itself, so that in some cases the patients walk normally in less than a year after the operation.

My experiences with this primary position cover nearly four years and are most satisfactory. Practically I did not have since that time any subspinal positions, although in a good many patients the anatomical conditions were extremely unfavorable. But even more, cases already treated unsuccessfully by the original Lorenz method (among them three cases operated upon by Lorenz himself) furnished complete restitutions of the joints. What can be claimed as advantages of the new primary position are, in short: the avoiding of the brutal widening of the capsule during the operation, and, therefore, less pain for the patient after the same, the restitution of the joint in almost all cases, obtained by the administration of only one cast, and simplification of the after-treatment.

These facts should advocate my primary position by itself.

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DISCUSSION ON THE PAPER OF DR. MUELLER.

Dr. Edwin W. Ryerson of Chicago:—Mr. President: This position advocated by Dr. Mueller is one that has been in use by Schanz of Dresden for several years, and has been written of, as you know, by Drs. Mueller, Schede and others. It possesses, therefore, no originality; but, on the contrary, to my mind it has several disadvantages. In the first place, when you get a child up in the "frog" position, with its leg sideways, it is hard enough for the child to get along with the legs hanging straight down; but when you rotate the legs around so that they point posteriorly, the after-treatment, instead of being simplified, is complicated. It is impossible in some cases to make the child comfortable in bed. It has to be propped up by several pillows to give the legs a chance to drop down on the bed without pressing on the ankles too much. It is not necessary to use Dr. Mueller's position, because if the casts are properly applied, after the reduction of any given congenital dislocation of the hip, nothing further in the line of position will be necessary beyond a right angle abduction in the vast majority of cases. The reason why Lorenz still gets so many anterior displacements after his operations is because, as was pointed out by Dr. Edward Ochsner a couple of years ago, he puts on so much padding that as the buttocks atrophy, as they always do, while the child is lying in bed, the upper part of the cast holding the femur pushes forward a little because the pelvis sinks backward. That in itself pulls the head of the femur into an anterior position, so that by using much less padding than Lorenz uses, by putting on the cast securely, having an assistant on one side and yourself on the other to compress the pelvis and hip joint antero-posteriorly, while the plaster is hardening, you will avoid anterior transpositions. Since I have become aware of this method, I have seen no anterior transpositions in a large series of cases I have operated on. Dr. Ochsner reported thirteen cases in which this procedure was carried out, with no anterior transposition. There is no use in subjecting these patients to the disadvantages of having the legs twisted around in a position where they can not walk with comfort, when by a simple maneuver, such as I have described, we can allow the child to walk soon after the casts have been put on in a double hip dislocation with the aid of a small chair, the child being able to learn to walk rapidly, so that many of them can walk fairly well shortly after the operation has been performed.

Dr. Mueller (closing the discussion):—Dr. Ryerson has said that this primary position is not original. Of course, it is almost impossible to present anything original so far as primary position is concerned, because primary positions were tried long, long ago. These primary positions were tried as early as 1894 and 1895. Most of the orthopedic surgeons follow the Lorenz primary position, which is really an extra rotation, although Lorenz says there is no rotation at all. Schede and Lange and other followers have used intrarotation, because no one before used this extreme abduction of the leg.

So far as padding is concerned, I may say that it has very little bearing on the outcome of any given case. I was able to look up more than 800 cases of congenital hip joint dislocations in Vienna, and a good many in this country, and I must say that one factor which causes anterior superior dislocation is extra-rotation of the thigh by letting the head out of position when you correct the leg. This modification of the primary position has one great advantage, and that is no rotation of the leg remains after the position of the leg is corrected. If you will look up the cases operated on after the Lorenz method, you might find 80 cases among 100 in which there is decided outward rotation of the leg after the cast has been taken off and union completed. This rotation of the leg is important, and it is even dangerous, because it causes rotation of the pelvis, it causes rotation of the spine, and it causes in almost all cases a beginning scoliosis.

THE MEDICAL TREATMENT OF NEPHROLITHIASIS URICA.*

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The treatment of nephrolithiasis must concern itself, first, with preventing the deposit of concretions in cases that are predisposed to the formation of renal stones; second, with facilitating the passage of the concretions after they have once formed; third, with preventing secondary infections; and, fourth, with symptomatically relieving the pain, the renal colic, the hematuria and other phenomena that occur in the course of nephrolithiasis.

PROPHYLAXIS.

The prophylactic measures that can be employed vary according to the character and the composition of the urine. An individual presenting the syndrome of renal calculi and voiding an *acid* urine, with occasionally a little gravel or sand composed of uric acid, urate or oxalate crystals, must be treated differently from a subject whose urine is *alkaline* and possibly purulent; for in the former one is justified in dreading the presence of urate or oxalate concretions, in the latter, of phosphatic deposits. Uric acid and urate concretions alone will be discussed within the narrow time limits allowed for this paper.

To prevent uric acid or urate deposits the solubility of the urinary uric acid must be increased *ad maximum*. The factors that chiefly¹ determine this solubility are the concentration of the urine, its contents of sodium chlorid, the percentage of uric acid it contains, and, above all, its reaction. The more concentrated the urine and the more uric acid and sodium chlorid it contains per centically the greater the tendency to the precipitations of uric acid and urates in the urinary passages. For these reasons the urine should always be rendered dilute by abundant ingestion of water while the intake of common salt (sodium chlorid) is restricted. The urinary excretion of uric acid should be reduced as much as possible by proper dietetic means and the reaction of the urine regulated in such a way that it is never allowed to remain strongly acid.

THE PROPER DIET IN NEPHROLITHIASIS URICA.

The following considerations should govern the selection of the diet in nephrolithiasis urica as in any other manifestation of the so-called "uric acid diathesis." The old view is that uric acid is an oxidation product of albumin and an intermediary product in the formation of urea; the new view is that uric acid is a specific metabolic product of a special kind of albumin, viz., nucleins.

Nucleins are the chief constituent of all cell nuclei and are, hence, contained in many articles of food and also in the tissues of our own body; uric acid may, therefore, be derived from either. As a matter of

* Quoted in part from the author's book, "Clinical Therapeutics," and presented before the Fifty-seventh Annual Session of the Illinois State Medical Association, May 21-23, 1907.

1. In all forms of nephrolithiasis there must also be a cementing material (mucus, fibrin, pigments, etc.) that makes a concretion out of a fine sediment.

fact, the administration of nuclein or of nuclein-containing foods by the mouth is followed by an increase of the uric acid excretion in the urine. On the other hand, a subject fed for a long time on a diet containing no nucleins (see below), or a subject after a prolonged period of fasting, still excretes appreciable quantities of uric acid. In the former instance the increase of uric acid was derived from the food nucleins; in the latter the excreted uric acid was derived from the tissue nucleins.

The formation of uric acid from the food nucleins we can control; the formation of uric acid from our tissue nucleins we can not control. Whereas the former factor is constant and independent of the individual, in the sense, namely, that a definite quantity of food nuclein invariably leads to the excretion of a definite and calculable quantity of uric acid, the latter factor is inconstant, varies in different individuals and can not be calculated in advance. One has only recently learned to understand the influence of diet on the uric acid excretion, and, above all, the influence of the food nucleins on this function.

MEATS.—There is much disagreement and misunderstanding in regard to the use of meat. One group of extremists interdicts the use of meats altogether; another makes artificial distinction between dark and red meats, and a third insists on a diet consisting almost exclusively of red meat ("Salisbury diet"). I see the matter as follows: The use of a moderate amount of meat is not only permissible, but necessary. Some care must be exercised in selecting the kind of meat and in determining its quantity and its mode of preparation. The administration of nuclein or extractives (uric acid and the purin bases) should be reduced; hence all meats containing many cell nuclei, i. e., all internal organs (liver, kidneys, sweetbreads, brain, thymus) should be rigorously excluded. All meat extracts, broths, sauces and gravies contain the extractives and are consequently bad. Raw meats, smoked and cured meats, sausage, etc., because they still contain the extractives, should also be limited.

To exclude the flesh of fowl because birds produce more uric acid than mammals is based on the erroneous conclusion that consequently their muscles are also particularly rich in uric acid. There is no reason to exclude poultry. It has also been shown by exact analyses that there is no difference in regard to the uric acid content between the dark and the white meat of birds. This distinction is, therefore, also unnecessary.

Boiled meat is better than roast or fried meat, because the extractives have been removed from the former. Some writers maintain that the quantities of extractives introduced with meat are so small that they can not possibly exercise an appreciable effect; there is, however, some evidence to show that these bodies, administered in small quantities for a long time, may exercise a cumulative effect.² It is safer, therefore, to adhere to the foregoing rules until evidence to the contrary is forthcoming.

We are unable, of course, to directly control the nuclein economy of the organism proper, by restricting the use of nucleins, for the body is capable of building up its tissue nucleins from any proteid and phosphorus-containing pabulum. We know, for instance, that whole peoples

2. Croftan: The Role of the Alloxuric Bases, etc., Am. Jour. Med. Sciences, 1901.

live on a vegetarian diet free from nucleins (these, by the way, are remarkably free from gout).

The albumin of the meat exercises no direct effect on the excretion of uric acid and may, therefore, be considered an essentially indifferent constituent of flesh as far as the uric acid economy is concerned. The quantity of meat should, however, be limited, although not reduced too much. The organism requires a definite quantity of nitrogenous material, and, while it is possible to supply all the nitrogen required in articles of food other than meat, this procedure necessitates feeding the patient with large quantities of bulky material, leaving much residue and taxing the digestive apparatus very severely. It is more natural and more rational to supply a portion of the nitrogen in meat, especially as the withdrawal of meat constitutes a great hardship to many patients and it would be unnecessarily cruel to stop its use. One pound of meat, moreover, contains as much nitrogen as several pounds of most other nitrogenous articles of food.

Unless the caloric value of the diet is carefully calculated there is always danger of underfeeding the patients when meat is withdrawn. This is a dangerous possibility, for it favors the development of gouty cachexia, lowers the tone, and therewith reduces the activity of the oxygenation powers of the body. If nitrogen is deficient the organism, moreover, compensates for this deficiency by increased catabolism of its own (nuclein-containing) tissues. On the other hand, too much meat is certainly bad, for, in the first place, meat produces a distinct digestion leucocytosis, followed by the disintegration of leucocytic nuclei; in the second place, meat reduces the alkalinity of the blood owing to the sulphur and phosphorus it contains; for these elements, as we have seen, are oxidized to sulphuric and phosphoric acids, and as the bases (potassium, sodium, calcium, and magnesium) liberated from the meat at the same time are incapable of completely neutralizing these acids, acidulation of the bodily fluids occurs (corned beef is particularly bad in this respect because all the basic salts are leached out in its manufacture and replaced by neutral sodium chlorid); in the third place, meat taxes the eliminating powers of the kidneys very much and these organs must be spared and protected in the uric acid diathesis.

Eggs.—Eggs in moderation may be permitted. True, the yolk of egg contains abundant nuclein (vitellin), but this nuclein is different chemically from the nucleins of meat and can not split off uric acid. The white of the egg exercises no effect on the uric acid excretion even when given in large quantities; of course, it, too, like meat albumin, can reduce the blood alkalinity. Where it is well borne, it is, however, a very convenient form in which to supply nitrogen.

MILK AND CHEESE.—An exclusive milk diet, as advised by some, is always bad, particularly in old people, for the digestion of large quantities of water incident to abundant milk drinking must needs overtax the heart, the arteries and the kidneys. Milk as an addition to a mixed diet is good if it can be borne; here we must individualize. The nucleins it contains are paranucleins and do not produce uric acid. Milk slightly

reduces the alkalinity of the blood, owing possibly to the generation of lactic acid and to the oxidation of its proteids. All these theoretical disadvantages are, however, over-compensated by its highly nutritious character and its powers to stimulate diuresis.

In the manufacture of cheese the basic alkali salts contained in the milk are dissolved in the whey; hence cheese is poor in these salts. The same objections can, therefore, be formulated against its use as against corned beef (see above), viz.: that it acidulates the blood owing to the formation and incomplete neutralization of sulphuric and phosphoric acids; in addition, the free fatty acids that cheese contains may enforce this effect. As a matter of fact, the urinary acidity increases after a cheese diet. Empirically, cheese has been known to precipitate gouty attacks, and in certain regions of Germany where much cheese is eaten urinary calculi are said to be very frequent. I consequently exclude cheese from the dietary, although there is no compelling scientific reason for doing so.

FATS.—It has been argued that fat should be omitted from the diet in uratic cases because it is so readily oxidized and hence prevents the oxidation of the nucleins. Withdrawal of fat does not, however, exercise any effect on nuclein catabolism nor on uric acid excretion. Excessive feeding with fat has, on the other hand, been known to cause an increased excretion of uric acid. Paradoxical as it may sound, fat is particularly indicated in those cases that are inclined to obesity; for if fat is added to the diet the appetite is more rapidly appeased, the patients consequently do not eat so much, and are, above all, not so apt to gormandize. As uric acid patients should be instructed to take much physical exercise, the addition of some fat to the diet is almost indispensable to maintain full nutrition. If, therefore, certain individual idiosyncrasies, and also the state of the digestive apparatus, are duly considered, there is no valid objection to the use of fat in moderation.

CARBOHYDRATES.—Carbohydrates exercise no appreciable effect on the uric acid excretion nor do they irritate the kidneys. They do, however, favor the development of dyspeptic disorders, because they readily undergo fermentation and because they are so bulky. As all carbohydrates are quite soluble and are easily absorbed, patients living on a carbohydrate diet are very apt to ingest too much nutriment. Many persons, for instance, could without difficulty master 1,000 grams of carbohydrate in the form of bread, cake, potato, etc., a day, whereas no one would be tempted to eat an equivalent quantity of fat (440 grams) or of albuminous food (1,000 grams). Carbohydrates, moreover, favor alimentary glycosuria and indirectly the development of diabetes and obesity, both complications that are not infrequently seen together with the uric acid diathesis. Carbohydrates should, therefore, be restricted. In cases complicated with diabetes or obesity they should temporarily be forbidden altogether or replaced by fat. In patients suffering from dyspeptic complications, or in persons inclined to overeat, their use should also be restricted.

FRUITS AND VEGETABLES.—Certain of the bulbous vegetables, viz.,

potatoes, cabbage, etc., contain a very large percentage of carbohydrate and very little proteid; as they, therefore, possess all the disadvantages of carbohydrate foods, and only very slight nutritive value in proportion to their bulk, they should be used sparingly in the uric acid diathesis. They are also apt to undergo fermentation and to produce dyspeptic disorders. Salads and all green vegetables, on the other hand (with the exception of young germinating plants, such as asparagus, that contain much nuclein) may be given freely. They contain relatively little carbohydrate and a large proportion of salts. The large residue of cellulose they leave in the digestive tracts stimulates peristalsis and aids in keeping the bowels open; this is a desideratum in gouty cases. Celery and onions are to be forbidden on account of the irritating oils they contain.

All fruits, either deciduous or citrous, may be permitted. The acid salts they contain are converted into carbonates and render the urine alkaline; they contain very little carbohydrate. Empirically, too, we know that they act beneficially in the uric acid diathesis (so-called "fruit cures"). Fruit acids exercise no distinct effect on the excretion of uric acid, with the exception of tannic acid, which seems to decrease it.

WATER.—Water should be the chief beverage. Forced water-drinking, however, is unnecessary, even harmful, although it is advised by some authors. Excessive water-drinking does not increase the excretion of uric acid; nor does increased diuresis by any means signify increased excretion of urinary solids. Water in a sense is a distinct irritant of the renal epithelium; in gouty nephritis, therefore, and in cases of beginning renal insufficiency water in excess may do harm. Where there is much arteriosclerosis, with a weak heart muscle, the flooding of the circulation with water can only be detrimental. On the other hand, the amount of water should not be reduced too much, for we know from clinical experience that this practice favors the formation of urinary calculi. A uric acid patient should, therefore, drink from one to one and a half liters of water a day, not more and not less. It is better to order the frequent drinking of small quantities than the drinking of large quantities at long intervals. It is a good plan to have the patient drink one-fourth of a liter of warm water immediately before going to bed.

MINERAL WATERS.—The favorable effects that are said to be derived from the use of numerous well-advertised mineral waters are probably due to the water, and not to the salts in solution; the so-called uric-acid-solvent virtues of many of these salts seem highly problematical to me. The best mineral waters are those that contain abundant calcium (Wildungen, Fachingen, Centrexville).

TEA AND COFFEE.—Tea, coffee, cocoa are usually considered bad. I think their use should be greatly restricted in uric acid cases. They contain certain members of the group of alloxuric bases (caffein, thein, theobromin, adenin, etc.), and, as these bodies are direct precursors of uric acid, some of them are presumably in part converted into uric acid in the organism; at all events the excretion of uric acid is increased after some of these substances are given by mouth. While excessive tea or coffee drinking is, therefore, to be absolutely condemned, the moderate

use of thin tea or coffee is, I think, permissible, particularly in persons who crave these beverages. Tea is by all means preferable to coffee, for it stimulates diuresis. In patients accustomed to alcohol it is also much easier to limit or stop the use of the latter if a little tea or coffee is allowed.

ALCOHOL.—Alcohol-drinking has always been considered one of the chief causes of gout. In view of the almost universal prevalence of the alcohol habit, however, this proposition is difficult to prove. There can be no doubt that an alcoholic debauch may occasionally precipitate an attack of renal colic in a predisposed subject, and that sufferers from any manifestation of the uric acid diathesis as a rule feel better if they abstain from alcohol. Alcohol is a direct irritant of the digestive tract, of the circulatory apparatus, and of the kidneys. No distinct and uniform effect of alcohol on the excretion of uric acid has so far been determined, notwithstanding the fact that a veritable flood of investigation has been published on this question. The food value of alcohol is of subordinate importance in goutiness, for here there is no loss of valuable pabulum in the urine as in diabetes. Alcohol, chiefly on empirical grounds, is, therefore, as a rule, to be forbidden. At the same time we occasionally encounter a patient who does better if a small quantity of some alcoholic beverage is permitted. Champagne, sweet wines, cider, liqueurs and malted liquors are to be absolutely avoided; dilute Rhine or Mosel wine or claret or whisky with water, all in very small doses, may at times be allowed. The previous habits of the patient, his temperament and character, must be carefully considered.

THE REACTION OF THE URINE.

The most important element of all in the treatment of nephrolithiasis urica is the regulation of the reaction of the urine, for it is a well-established fact that alkaline urates are more soluble than acid urates or uric acid itself. To render the urine less acid and to promote the solubility of uric acid, alkalies, i. e., chiefly sodium carbonate and bicarbonate, or alkaline mineral waters, are commonly given. The essential influence undoubtedly exercised by the administration of alkalies upon the solubility of uric acid in the urine is the change in the relative proportion of acid, neutral and basic phosphates in the urine that they bring about. For uric acid is readily soluble in basic phosphates (di-sodium phosphate), but insoluble in acid phosphates (mono-sodium phosphate); the addition, in fact, of mono-sodium phosphate to a solution of uric acid in di-sodium phosphate will cause the precipitation of the uric acid. It is clear, therefore, that the solubility of uric acid in the urine is enhanced by the presence of di-sodium phosphate, and that the tendency to the formation of uric acid concretions increases in proportion to the amount of acid phosphate that is excreted through the kidneys. It is also clear that any effort directed towards preventing the precipitation of uric acid in the urinary passages must be concerned with increasing the amount of basic, and decreasing the amount of acid, phosphates. The ideal would be to cause the complete disappearance from the urine of mono-phosphate

and, at the same time, to produce an elimination through the kidneys of a quantity of di-phosphate sufficiently large to hold all the uric acid excreted in solution. This can be accomplished in two ways, viz.: either by decreasing the phosphoric acid in the blood that enters the kidneys or by increasing the sodium in this blood. The latter object can be accomplished by sodium salts, but, better still, as will be presently shown, by calcium salts.

THE DECREASE OF THE URINARY PHOSPHORIC ACID.—To decrease the phosphoric acid its source must be considered; it may be derived from preformed phosphates ingested with the food or from the phosphorus contained in the albumins (chiefly nucleins) of the food or of the body tissues proper. By eliminating from the diet, on the one hand, pabulum containing preformed phosphates or nuclein-containing food, and by removing, on the other hand, from the blood and tissues, *through other channels than the kidneys*, the phosphoric acid that must inevitably be formed from the degradation of our own tissues, we can reduce the urinary phosphate excretion.

THE ADMINISTRATION OF CALCIUM SALTS.³—We possess a remedy that both directly and indirectly regulates the phosphoric acid content of the blood and hence of the urine, viz.: calcium salts. For, in the first place, calcium forms insoluble salts with the alkaline phosphates contained in our normal food, and in this way prevents the absorption of this moiety into the blood. In the second place, calcium, owing to the great affinity it possesses for phosphoric acid, combines with the phosphoric acid encountered in the blood stream and causes the elimination of this proportion in the form of calcium phosphate—not, however, through the kidneys, but in great part through the intestine. This is an important point, for, in contradistinction to sodium, potassium and magnesium, all elements that are chiefly eliminated through the kidneys, calcium is principally (85 to 95 per cent.) eliminated through the bowel.

It will be seen, therefore, that calcium given by mouth can, first, prevent the entrance of a certain proportion of preformed phosphoric acid (phosphates) from the food into the blood, and can, secondly, prevent some of the phosphoric acid formed in the organism from passing into the urine by causing its elimination through the intestine.

The best calcium preparation is the carbonate, i. e., ordinary chalk, tooth powder. This may be given in doses of fifteen to twenty grains three times a day. More may be given with impunity. It is necessary to individualize. The smallest efficient quantity of any drug is always the best dose. The urinary calcium, phosphorus and uric acid excretion can to advantage be determined in the beginning (the patient being on a fairly constant nuclein-free diet) and the dosage regulated accordingly. The administration of sodium or potassium salts in place of calcium salts is not without danger. For the urine readily becomes alkalinized and a tendency is thereby created to the formation of phosphatic concretions around the uric acid or urate nucleins. The urine, despite the use of

3. See also Croftan: The Use of Calcium Salts in Nephrolithiasis Urica, Jour. A. M. A., 1904.

alkalies, should remain faintly acid; this is very difficult to accomplish when sodium or potassium salts are given for long periods of time, but not at all difficult if calcium salts are employed. The continued use, moreover, of sodium or potassium salts exercises a deleterious effect upon gastric digestion and is not without effect on the corpuscular elements of the blood. Calcium salts do not possess this disadvantage; they are, therefore, by all means preferable.

URIC ACID SOLVENTS.

A word may be said in this connection in regard to certain other remedies that have been recommended from time to time as so-called uric acid solvents. In most cases these remedies are given because they possess the property of dissolving uric acid in the test tube. One is not justified in deducing from this fact that they can also dissolve uric acid in the body, especially after urates have crystallized out or concretions have once formed. It is preposterous to give alkalies or any other remedies with the idea that they will dissolve urate concretions. One might as well give ether to dissolve the fat of the body in obesity, or mineral acid to dissolve the calcium out of osteophytes, on the ground that ether or acids can dissolve fat or calcium salts in the test tube. The amount of ingested alkali, moreover, that actually reaches the uric acid deposits (which are usually covered with a thin layer of mucoid material that protects them from "solvents") is so small that a solvent effect can impossibly be accomplished.

This criticism applies with particular emphasis to lithium preparations that are so popular in the treatment of uric acid diseases. In the first place, so-called lithia waters contain only a few decigrams of lithium carbonate to the liter. As they always also contain large quantities of other alkalies only a very minimal amount of uric acid (according to Barthollet's law) would at best combine with the lithia, the bulk would unite with the sodium and potassium salts, while, at the same time, most of the lithium would be promptly excreted as chlorid, phosphate and sulphate. Finally, lithium carbonate, which actually does readily dissolve uric acid in the test tube, is immediately converted in the stomach into lithium chlorid, a salt that possesses only slight uric acid dissolving properties.

Other preparations that have been recommended as uric acid solvents are lysidin and sidonal (the quinic acid salt of piperazin). I have never been able to convince myself that either of these remedies exercise any solvent effect whatsoever in nephrolithiasis urica. Urea, too, is considered a uric acid solvent, and it actually possesses the power to a very marked degree of dissolving uric acid outside of the body. Clinically, however, the results obtained from the administration of large amounts of urea have been, on the whole, unsatisfactory. What beneficial effect it occasionally exercises in ridding the renal passages of small concretions must presumably be attributed to its marked diuretic effect. Benzoic acid in the form of sodium benzoate in water has been extensively used. It does not dissolve urate concretions, but it acts as a urinary antiseptic

and hence may prevent infection of the urinary passages, with disagreeable secondary consequences like pyelitis.

Urotropin (hexamethylentetramine) may possibly vindicate its claim to being a uric acid solvent in nephrolithiasis. It splits off formaldehyde in the body and the latter combines with uric acid to form a soluble compound. The urine of patients who have taken large doses of urotropin acquires the power to a marked degree of dissolving the uric acid. Urotropin is, besides, a very effective urinary antiseptic, so that it deserves extended trial in nephrolithiasis urica. It should be given in five to ten grain doses, in a full glass of water, two or three times a day.

TO EXPEL THE CONCRETIONS.

One of the most useful remedies to promote the expulsion of concretions that we possess, aside from diuretics and abundant water-drinking, is glycerin. It should be given in large doses of 50 to 100 c.c. in lemonade or water. Its mode of action is not well understood, but symptomatically it occasionally aids in the expulsion of small concretions. The urine should, however, always be carefully examined for evidence of renal irritation, for in certain subjects glycerin produces hematuria; as soon as blood appears in the urine the administration of glycerin should at once be stopped. Olive oil, too, has been used for this purpose.

THE RELIEF OF THE PAIN IN RENAL CALCULI.

For relieving the pain in nephrolithiasis either heat or cold or counter-irritants may be applied to the lumbar region. In the dull pain that is so characteristic of a large stone, heat is usually more grateful than cold, whereas in the acute paroxysms of pain of renal colic, cold usually affords greater relief than heat.

Turpentine or tincture of belladonna (a few drops on flannel wrung out of hot water) applied locally in the lumbar region help the dull ache but exercise no effect upon the colic.

In severe renal colic opium will usually have to be given, either hypodermically as morphin, in doses of one-fourth to one-half grain, or by rectum in the form of a suppository or a starch enema. Chloral hydrate, ten to twenty grains (0.6 to 1.2 gm.) by rectum, also frequently relieves. The patient can to advantage also be placed into a warm bath or into bed with hot water bags to the lumbar region. If these simple measures fail to bring relief, then a few whiffs of chloroform will occasionally not only stop the colicky pain, but actually, like morphin, facilitate the passage of the calculus by producing relaxation of muscular spasms.

RENAL HEMORRHAGES.

Renal hemorrhages, if slight, should be treated by rest in bed, while the bowels are thoroughly evacuated and the patient is temporarily kept on a milk diet. At the same time certain drugs may be given, especially if the hemorrhage becomes obstinate and very severe. The most useful drugs are the fluid extract of ergot, fifteen to thirty drops (1.0 to 2.0 gm.) or preferably the injection of ergot hypodermically, using ergotin. one part, and camphor water, two parts, in doses of three to ten drops

(0.15 to 0.65 gm.). The oil of erigeron, fifteen to thirty drops (1.0 to 2.0 gm.) in capsule may be used if there is no nephritis. Tannigen, ten to thirty grains (0.5 to 2.0 gm.) in powder; the fluid extract of hydrastis, fifteen to sixty minims (1 to 4 c.c.), or, better, the hydrochlorate of hydrastinin, given hypodermically or by mouth, in doses of one-half to two grains (0.03 to 0.1 gm.) repeated, are all useful remedies.

SURGERY.

In case these medicamentous and dietetic measures, combined with rest, fail to stop the pain and hemorrhage; if the attacks of renal colic persist or if severe suppurative pyelitis complicates the disorder, or, finally, if a calculus becomes impacted in a ureter so that the patient's life becomes endangered from mechanical anuria, then recourse must be had to surgical means.

It is well to remember, however, that the tendency to the precipitation of urate concretions generally remains even after mechanical removal of the offending calculi, and that precisely in postoperative cases, in which the diagnosis of nephrolithiasis has been established beyond doubt, a persistent treatment based on the above principles should be rigorously carried out in order to prevent the reformation of renal calculi.

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EXOPHTHALMIC GOITER.

REVIEW OF LITERATURE DURING PAST TEN YEARS AND REPORT OF CASES
REGARDING SYMPTOMS AND DIAGNOSIS.*

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CHICAGO.

A critical examination of the literature of Graves' disease as regards symptoms and diagnosis compels us to give special, if not particular, attention to many of the so-called associated symptoms of the malady. This becomes especially important if we desire to make or at least speculate on the establishment of an early diagnosis. In many cases these so-called associated phenomena precede the cardinal signs for weeks, months and even years; so that a thorough understanding and precise comprehension of them in their relations to the pathognomonic symptoms will be of vast benefit to the subject-matter of early diagnosis, after which early treatment may be instituted, which the experience of the past ten years has shown to be indispensable to satisfactory results.

A careful estimate of these side symptoms which so often simulate and in some subjects are part of simple neurasthenia or hysteria will at the same time compel a consideration of them in their relation to Graves' disease, or as being early signs of that disorder. On the other hand, a number of instances are on record in which the cardinal signs were apparently the first intimation of the disease.

Considerable discussion arises among the different authors in regard

* Read at the Fifty-seventh Annual Session of the Illinois State Medical Society, held at Rockford, May 21-23, 1907.

to what should be termed a case of Graves' disease—in regard to what and how many symptoms are necessary to give a particular case that definite term. Since a number of theories have been marshalled to account for the primary origin of Graves' disease, of which the principal are the neurotic, the vascular and the glandular, a discussion naturally arises in respect to priority, significance and identity of the group of various signs and phenomena which should stamp an affection as belonging to the disease in question.

With few exceptions, the subjective symptoms which patients complain of are manifested through the nervous system, and many objective signs of Graves' disease are doubtless due to disturbances of the functions of the various nerves, especially of the sympathetic system; consequently it is not to be wondered at that many observers have in the past concluded that the origin of the disease lay in the nervous system primarily, and that the vascular and glandular symptoms were but secondary expressions.

Extensive and repeated experience has taught us that any and all measures which have accomplished a sufficient diminution of the secretive function of the thyroid gland have, with very few exceptions, resulted in a complete cure or a well-marked diminution of all of the untoward symptoms of the affection; and from that wealth and force of reliable evidence we may proceed to the establishment of a definition of Graves' disease, which will place it in the class of a glandular affection primarily, and a neurotic vascular affair secondarily.

Graves' disease may, then, be defined as an affection of the thyroid gland, resulting in an increase or perversion of its secretion to the point of influencing unfavorably the nutrition and functions of any or all tissues of the body. This influence at times assumes the character of an irritation, causing an abnormal increase in the functional activity of the structures attacked with resultant exhaustion of the tissues involved, presenting various pathological lesions from hypertrophy down to complete degeneration. In other instances, the poison overwhelms the resistance of a tissue, causing primary degenerative changes in the structure involved.

This excessive or perverted secretion exerts its deleterious effects somewhat unequally on the different tissues. In fact, an organ on one side of the body may be attacked, while its fellow of the opposite side may remain entirely intact. This, however, is not a valid objection to the assumption of the action of a systemic poison, inasmuch as similar phenomena occur in diseased conditions which have been definitely proved to be of a general systemic character. The predilection may, then, be explained by a difference in the resisting power of different structures, or even that of the different areas of the same organ.

It has frequently been observed that the initial symptoms of exophthalmic goiter occur simultaneously with or as an immediate sequence of some exciting cause, such as shock, fright or some profound grief. But this occurrence should not lead us to establish a causal relationship between the two facts. It should rather, as in the case of heart failure,

insanity, neurasthenia and hysteria following similar exciting events, be classed as the "straw which broke the camel's back" and not as the weight which represented the real underlying basic cause of the trouble.

We well know that many grave organic affections develop slowly and insidiously and would tend to show their effects in a gradual manner were it not for the introduction of some sudden, acute factor, which, so to speak, explodes the mine and presents the disease immediately in all its glowing colors; and, without further investigation, would be accredited with the sole causal power. Conversely, we find some reported cures of Graves' disease from such slight operative interference as the cauterization of the nasal mucosa, etc.

On the other hand, cures of epilepsy, hysteria and even insanity have been reported from procedures even more simple than the above noted, which, in modern thought, can only be considered temporary or coincident at best. The symptoms of Graves' disease must also be considered in respect to the manner in which they arise. As in many other affections, the symptoms may be primary, due to the direct influence of the circulating poison; or they may be concomitant or secondary, occurring in direct connection with some primary lesion or as a necessary result of that lesion; and, again, from a theoretical standpoint, many symptoms undoubtedly result and continue from a combination of these causes.

The recognition of a symptom as to its being primary or concomitant will largely depend upon the time of its appearance, and the possibility of excluding its dependence on some other condition. The frequent impossibility of classifying symptoms in regard to their origin is undoubtedly responsible for the many and varied theories put forth to account for the existence of Graves' disease. A striking uniformity exists, however, in the pathological findings of removed specimens of the thyroid gland, which have invariably shown typical findings. That these changes support the theory of hyperthyroidization can not be denied when one considers the fact that they correspond to the changes found in compensatory hypertrophy of the portions of thyroid gland allowed to remain after partial thyroidectomy. This constancy of pathological findings does not exist in either the nervous or vascular system, and hence must be considered as a negative argument in favor of the thyroid theory.

McCallum, examining sections of thyroid gland in 28 cases of Graves' disease, finds uniform changes in size and shape of the alveoli, in the character of the epithelial cells and colloid, in the vascular supply, connective tissue framework and lymphoid structure of gland. The alveoli shows a folding in of the epithelium. The cavities send off diverticula. Epithelial cells change from low cuboidal to high columnar, some showing mitotic figures. The colloid is diminished in amount and watery in appearance. The vascular supply is very rich; interstitial tissue increased and lymphatics enlarged. He found the parathyroids normal in eight cases examined. These findings agree with Foxwell, Albert Kocher, Joffroy and Achard and others.

After having removed portions of the thyroid gland in animals, Edmunds, Murray and Horsley find that the changes in the portions of gland allowed to remain were identical with those found in exophthalmic

goiter. Stein stated that many bad cases show no apparent changes in the sympathetic system.

Edmunds and Hutchinson report that continuous feeding of thyroid extract to dogs produces all the symptoms of typical Graves' disease, and Notthaft graphically describes the case of a man, 45 years of age, who, during a period of five weeks, had taken 1,000 5-grain tablets of thyroid extract and developed all the cardinal symptoms of exophthalmic goiter three weeks after beginning ingestion of the drug. The doctor had the pleasure of seeing his patient recover after suspension of the extract, the exophthalmos being the last symptom to vanish. It will be but mentioned here that degeneration of the thyroid gland during the course of exophthalmic goiter, as well as extirpation of too great an amount of gland tissue at operation, has been followed by the very opposite set of symptoms, namely, those of thyreopriva.

ONSET, COURSE AND TERMINATION.

For reasons already discussed, the real onset must precede the apparent start of the disease by a considerable period of time, the length of which can probably never be determined. Any one of the symptoms of Graves' disease may initiate it and be followed by others rapidly or over longer periods of time. In some instances only a few symptoms appear, some of the cardinal being absent, and to this group the term "formes frustes" has been given. When colloid goiter precedes the pathologic changes of exophthalmic goiter the course of the disease is, as a rule, more mild and offers better subjects for surgical interference; and to this group Kocher gives the name of struma basedowificata or Basedowified goiter.

The disease may run a rapid and violent course, terminating in early death; it may be characterized by remissions and exacerbations, or pursue a comparatively uneventful course. Some cases have recovered spontaneously.

Halsted, from his studies, remarks that 25 per cent. of cases die within a short time and the remainder continue in a state of uncertain equilibrium. The malady may begin very early in life, but appears most frequently between adolescence and middle life; that is, at a time when glandular activities are at their height. While the majority of cases occur sporadically, a few instances seem to point at an hereditary origin. For example: Brewer reports an instance of three children, aged 7, 10 and 12 years, respectively, in the same family, affected with the disease; also another family of seven children in which four were affected. Curtin reports 97 cases in 35 families, and Oesterreicher relates the case of a woman, herself a subject of Graves' disease and the mother of ten children, eight of whom presented the disease, one of whom had three children so affected.

Sex apparently is a factor in the establishment of the disease. Murray, from 400 cases, gives a ratio of 8 females to 1 male; Putnam, from 32 cases, 6 to 1, and Buchan, from a group of 980 cases, finds 9 women affected to 2 men.

While the majority of cases ending fatally have suffered for years, some patients succumb very soon after the onset of acute symptoms.

Suteliff reports the case of a woman dying three months after the onset. Foxwell saw a man of 42 years die six months after first symptoms, and Ball saw death only four weeks after acute phenomena.

SYMPTOMS.

From their frequency and association in the disease, struma, tachycardia, exophthalmos and tremor are called the cardinal symptoms of Graves' disease.

According to some observers, struma is a constant appearance, while others do not always find primary enlargement of the thyroid gland. The gland swelling is, as a rule, not great, and may be more pronounced on one side than on the other. The size of the gland varies somewhat, depending upon the fluctuations in the caliber of its blood vessels. Kocher says that he does not know of a case without vascular struma; in reporting 74 cases he finds enlargement of the gland in every patient and describes it as being of thick, elastic consistence. Schultze, in his presentation of 50 cases, also agrees with Kocher, declaring struma as a constant symptom. Murray, in a tabulated report of 180 cases, found struma in 172. Steiner says struma is absent in only 15 per cent. of cases. Depending upon its size and relation to other structures in the neck, the enlarged gland will give rise to symptoms due to mechanical pressure, choking sensation and dyspnea from compression of the trachea, headache and vertigo from interference with the circulation in the neck. Due to the variation in the size of the goiter already mentioned, these symptoms are, as a rule, intermittent and very variable. Kocher describes this condition in 16 of his cases. Kroeger, in St. Petersburg, after having examined 900 patients, concludes that a gland that may be felt and outlined is pathological and constitutes struma.

Tachycardia is no doubt the symptom which is always present to a greater or less degree. The number of heart beats may vary from 80 to 200 per minute. It may beat fairly regularly or be marked by a tumultuous irregularity. It may be the distressing and fatal symptom, giving rise to innumerable secondary disturbances which arise from disordered cardiac functions, dilatation and insufficiency. The rapidity of heart action usually comes on in the shape of attacks, either following excitement or perfect quiet. A pulse which one minute registers 120 may in the next beat 250 times, as in the case of Steiner. Hoesslin speaks of a rhythmic difference in the pulse, using morning and evening comparisons. Collins found that in 59 cases the pulse rate varied from 80 to 180 per minute; and Murray, in 180 cases, finds the pulse rate between 90 and 200 beats per minute. Kocher, in 74 cases, reports the pulse between 92 and 240 beats per minute. The heart action is, as a rule, regular early in the disease, but from cardiac hypertrophy, dilation and broken compensation it becomes irregular and intermittent. Shattock reports a case where the patient had two attacks of syncope and died, and Schultze, from his operative experience with 50 cases, states that the 9 deaths which occurred in his series were due to heart failure, and took place in the subjects having severe involvement of the heart prior to operation.

Exophthalmos, the symptom which gives its name to the disease, was, according to Collins, present in 63 out of 100 cases. von Holst found it

marked in only 5 out of 34 cases. Murray observed it 120 times in a series of 180 cases. Kocher noticed it 63 times in 73 cases, and Schultze in 92 per cent. of his 50 subjects—from which it may be realized that the symptom is only present in a certain percentage of the cases which bear its name.

The condition consists of a forward displacement or proptosis of the eyeballs, and gives to the patient's expression a startled appearance. The condition appears, as a rule, bilaterally and comes on gradually. Hinshelwood reports a case showing as a first symptom exophthalmos of the left eye, followed in three weeks by a similar condition of the right eyeball. Bestis reports three cases in which the exophthalmos was unilateral, the opposite eye remaining entirely normal. The proptosis may be slight or it may develop to an extent making closure of the eyelids impossible, exposing the patient to all the dangers of corneal irritation consequent upon exposure and lack of protection normally afforded by the eyelids. Undoubtedly a number of concomitant symptoms occur in connection with exophthalmos accentuating the other ocular phenomena, due to the direct action of the thyroid toxin. It must also be said that exophthalmos without any other symptoms of Graves' disease can not be considered as belonging to the affection.

Tremor is encountered sufficiently often to style it as a cardinal symptom. It is a rhythmic muscular movement, having an average rate of about 8 vibrations per second and usually of small amplitude. It may affect any or all of the skeletal muscles. It may be best observed in the hand and fingers when extending the forearm. The writing of the patient will show a fine irregularity in the characters. It may be so pronounced as to prevent the patient from buttoning his clothes. Murray found it in 163 out of 180 cases, and von Holst observed it in all of the 34 cases reported by him. Kocher reports tremor in 60 of his 73 patients, and Schultze found it in 66 per cent. of his list.

The associated symptoms of Graves' disease are so numerous and varied that a discussion of them under the various systems seems most practical.

The ocular signs have been considered of particular importance from a diagnostic point of view. von Graefe noticed that in directing the eyeball downward the lower margin of the upper eyelid did not follow the line of vision in the normal regular manner. On the contrary, the eyelid lagged behind or descended in an irregular spastic manner. Murray found the condition present 49 times out of 180 cases, and Schultze in 30 per cent. of those under his care. Burns discovered the sign in nearly one-half of the cases examined by him. The sign may exist alone or occur in connection with all the other signs.

Stellwag's symptom consists of a retraction of the upper lid, resulting in or concomitant with infrequent winking of the eyelid. The retraction is probably due to a spastic condition in the upper lid, and the infrequent winking to partial anesthesia of the cornea, or to a combination of both causes. Murray found the conditions present 70 times in his 180 cases. The recognition of the sign is of special importance on

account of its relation to secondary irritations, infections and at times destructions of the cornea.

Lapersonne reports a case in which the eyelids did not cover the cornea. After a short time the eye atrophied and the cornea reduced itself to a cicatricial line. Terson reports a similar instance. Griffith states the case of a girl, 21 years of age, in which one year after onset of symptoms of Graves' disease the right eye became painful and disorganized, necessitating its removal. These and other instances tend to demonstrate that ocular destruction may result either primarily from the actions of the thyroid toxin on the ocular structures or secondarily due to lack or insufficiency in protection normally afforded by proper action of the eyelids.

Moebius showed insufficiency of the internal recti muscles, giving as a symptom more or less exophoria. That this condition is not confined to the internal recti muscles is proved by numerous reports of palsy of the different external ocular muscles. That Moebius should particularly notice the palsy of the internal recti may well be explained by their function of convergence, as well as their size and importance in comparison with the other ocular muscles, which naturally would demand attention when impaired.

Berger reports four cases in which epiphora or excessive lacrimation preceded other symptoms by a variable length of time, while in other instances he has observed annoying dryness of the conjunctiva and cornea.

Gifford states that in examining a number of cases he has met with unusual difficulty in everting the upper lid, and states that this condition is independent of exophthalmos and may, therefore, be employed as an additional sign.

These ocular symptoms may occur singly or in various combinations with each other. Murray found them all existing together in 27 cases. The claim is made that vision is, as a rule, not impaired, but this statement can not be accepted in view of the fact that many cases have visual defects, and the majority have not been carefully investigated by oculists or submitted to fundus inspection.

The vascular symptoms constitute perhaps the most annoying features to which the patient is subjected, and in many instances give rise to introspective ideas and delusions of infinite variety. They are, for the most part, concomitant in nature, depending on cardiac and vasomotor states for their production.

The sensation of a beating in the chest or palpitation was present 59 times in 100 cases according to Collins' experience. Murray reports palpitation to have been the first symptom in 19 cases out of a series of 120 instances, and in all the cases the cardiac pulsation was felt over a larger area than normally. He found a systolic murmur 17 times over pulmonary valve, 16 times at apex and 8 times over both regions. The cardiac rhythm was irregular in 8 cases. A thrill over the thyroid gland was noticeable in 14 cases, and a bruit was audible in 37 cases, of which 23 were systolic in time and consequently of arterial origin, and 7 continuous, due to venous cause.

Donath reports experiences with the blood pressure in Graves' disease, and results show some to have been below normal, some normal, and others above the usual pressure. The lowest pressure reported was 64 mm. and the highest 176 mm. at radial artery. Three factors at least enter into the explanation of indicated vascular pressure, namely, the condition of the heart, that of the blood vessels and state of the vasomotor system.

Arterial throbbing and venous pulse are purely concomitant symptoms and need but be mentioned.

Of the respiratory symptoms dyspnea is the most distressing and is, as a rule, of a paroxysmal type, frequently coming on at night without any apparent cause. It may be independent or in connection with a cardiac attack. Collins found it in 27 instances of 100 patients. Kronlein out of 191 subjects reports 62 having history of paroxysmal dyspnea. Hofbauer calls attention to a change in the respiratory curves. He found increase in length of inspiration and expiration, and irregularity in the height of the individual elevations, and a longer absolute stasis of respiration.

The most striking gastrointestinal symptom is diarrhea. It is intermittent in type or consists only of a liability to diarrhea. Collins found the condition 16 times in 100 cases, and Murray 35 times in 120 patients, with 45 cases of frequent defecation. Constipation was marked in 29 cases of Collins' series. Nausea and vomiting was present 11 times in 100 cases and 7 times in the series of 120.

Matson states that severe vomiting is a symptom common to fatal cases, and reports a case in which death took place in 19 days from this cause. As a rule, the vomiting is intermittent and occurs without any apparent cause.

- Pigmentation is the marked cutaneous symptom. The areas may be small or large and, as a rule, confined to no particular locations. The patch may be well defined or shade imperceptibly into the surrounding tissue. The color varies from light to dark brown. Collins found pigmentation 12 times out of 100 cases. Murray found it 20 times in 120 cases. von Schrotter reports a case in which the body was covered with large and small pigmented areas. The eyelids are frequently pigmented, and this is classed by some as a quite characteristic symptom. Murray, in 76 out of 120 cases, noticed an unusual dampness of the skin. Sweating on slight or no provocation, especially occurring at night, is not an unusual condition.

Booth, in speaking of the edemas, classifies them under three groups: the cardiac, from defective heart action; those due to nerve influences on the vascular walls, and transitory types analogous to the angioma sort. The phenomenon of dermatography was noted 16 times by Collins.

Hyde speaks of the modification which the different skin lesions present when engrafted on a case of Graves' disease, and calls attention to the telangiectoid condition and liability to subcutaneous hemorrhage, epistaxis, etc.

The action of the thyroid poison on the brain is that of a mild irritant which, however, either through continuous or cumulative effects, presents evidences of grave psychoneurotic or even organic cerebral dis-

case. On the predisposed and mentally defective it may easily be conjectured that this effect will be materially enhanced and vivid.

The majority of patients display a condition of subdued smouldering excitement and irritability of temper, with tendency to explosive mental acts. Murray reports chorea of ideas and insanity in 3 cases. Seventy of his series of cases presented the suppressed excitement; some were irritable, some emotional, and one melancholy with suicidal tendencies. Johnson reports a case of mania, with death from exhaustion. Hirschl hunted up 43 instances with folie manie, melancholia, paranoia, phobias and general paresis. Clouston reports 3 patients affected with delusions of persecutions and grandeur.

Potain states that in his experience the mental attitude assumed by the patients corresponded to those traits which are the most vicious in each particular individual.

Kinnicutt's tables would argue that the psychic effect is of superficial character, inasmuch as in a summary way of 187 cases subjected to operation whenever improvement followed the psychoneurotic phenomena were the first to disappear or subside.

Adams reports more or less palsy of the muscles supplied by the superior laryngeal nerve in 107 cases, and Kronlein found 49 cases showing disturbances of the voice, 7 of which were demonstrably due to unilateral palsy of vocal cords.

The muscular system was investigated by Askanazy, who at the autopsy of four cases found diffuse interstitial lipomatous infiltration and fibrillary degeneration in the skeletal muscles examined. This accounts for the symptoms of muscular weakness and giving away of the legs so often complained of by Basedow subjects. At least it is one explanation; the other would be found in the condition of the motor nervous system. Recklinghausen describes the same condition and quotes Hansen as having found similar changes in the extrinsic ocular musculature. From a symptomatic standpoint Lemke describes the muscular contractions as slow, difficult and faulty, thereby suggesting the mode of production of von Graefe's sign.

That the process of metabolism is affected, and at times to an astounding degree, ample evidence is at hand. Continuous and pronounced emaciation was a feature in 15 per cent. of Collins' cases. Murray found wasting in 45 cases in his series. This emaciation occurred independently of any of the usual causes and could only be ascribed to excessive metabolic influences.

Nutritional interference was well shown in the case of Griffith, who, having performed a tarsorrhaphy, had little or no union until partial excision of the thyroid gland, after which union took place completely and rapidly. Perverted metabolism was exemplified in von Schrotter's patient, in whom the upper portion of the body and extremities became thin and emaciated, while the lower half increased very disproportionately in size, the microscopic section of the subcutaneous tissue showing fat.

The diagnosis of Graves' disease implies a change in the structure of the thyroid gland. This alteration is a definite one, and may or may not

be associated with enlargement of the organ. Collins found enlargement in 70 per cent. of the cases, and Murray found 112 enlarged out of 120, with five giving a history of previous goiter. This characteristic glandular change may occur primarily as in the majority of the cases, or it may take place secondarily in any of the other diseased conditions of the thyroid gland. In the latter condition the operative interference has been favored by a very low mortality.

As to how many signs and symptoms are necessary for the establishment of the diagnosis, a great difference of opinion will naturally result. The later and typical cases with the cardinal signs well marked may be easily labeled. In that early stage, or in those conditions in which some of the cardinal signs are wanting, that is to say, the "*formes frustes*," a recognition of the true nature of the malady will depend largely on the judgment of the observer and the sequence and course of the affection. It may be interesting to know that a number of neurologists, among whom Dana, Sachs and Starr may be mentioned, have expressed themselves as satisfied with the thyroid theory as an explanatory cause for the disease.

The matter of differential diagnosis centers itself about those instances styled the "*formes frustes*," in which several symptoms are not apparent and those conditions apart from Graves' disease which may present some of the cardinal symptoms, or a number of the associated signs.

Exophthalmos may be due to many causes not connected with changes in the thyroid gland, as may also most of the other signs existing independently.

Pigmentation is a feature of Addison's disease, which fact must be considered.

Cobb, in his experimental work, found that stimulation of the sympathetic in the neck will produce exophthalmos. It could be produced temporarily by ligation of the external jugular vein.

Lowe reports edema in connection with Graves' disease and considers the location of the edema as a differential factor. He found one case in which edema was confined to the middle of the thigh. Rendu reports a case in which both supraclavicular fossæ were the seat of edema, the condition simulating hernia of the lung. Cholmogoroff, having made a study of the condition of the genital female organs during Graves' disease, enumerates his findings as follows: Atrophy of breasts, loss of fat in *mons veneris*, flaccid condition of labia and vagina; in fact, the picture of senile marasmus.

In regard to pregnancy Kleinwachter related a case which aborted in six weeks and which he considered due to the thyroid gland. One of his patients was ten times pregnant and each time the Graves' disease symptom became more pronounced.

Baldwin reports a case in which myxedema developed after the cessation of Graves' disease, but yielded to thyroid extract treatment.

Personal observation includes 28 cases, of which only a discussion of the percentage value of principal symptoms will be indulged in.

The youngest patient was 16 and the oldest 51 years of age.

Sixteen occurred in females and the rest were males.

Enlargement of the thyroid gland could be demonstrated 26 times.

Exophthalmos was a symptom in 18 cases. The heart action was increased in frequency 22 times, the pulse rate varying between 90 and 180 beats per minute.

Tremor appeared in 18 instances.

Palpitation was complained of 12 times.

Dyspnea of the intermittent type occurred but 4 times.

Weakness of the legs was present in 4 patients.

Twelve cases complained of a tendency to irregular attacks of diarrhea.

Vomiting was a feature in but 3 patients.

Headache occurred 4 times.

Moisture of the skin was noticed in 22 subjects, but typical sweating only in 3 individuals.

von Graefe's sign was noted 6 times, and Stellwag's but 3 times.

Moebius' sign was observed in but 2 cases.

Dysphagia noted 2 times.

Painful cramps in the legs in 2.

Diplopia occurred once.

Pulsation of the vessels of the neck present 5 times, and a systolic bruit 5 times.

Marked cerebral excitation was found in 8 patients and attacks of delirium 2 times.

Pigmentation of the skin was typical in 5 subjects.

Five were constipated, and one presented the condition of diarrhea, alternating with constipation.

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ILLINOIS MEDICAL JOURNAL

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JANUARY, 1908.

THE ANTITOXIN QUESTION.

The Bulletin and Supplement of the Illinois State Board of Health, issued Saturday, December 14, and dated October, 1907, demands attention at our hands, because of several references to THE ILLINOIS MEDICAL JOURNAL and its editor. These references concern articles which appeared in the November and December issues of THE JOURNAL. The first item, mentioned in *The Bulletin* proper, referred to the letter published in our November issue asking about the antitoxin now being supplied *gratis* by the Board in accordance with the law recently enacted by the General Assembly.

On Sept. 25, 1907, we received from a prominent practitioner in Southern Illinois the letter, published in November, making inquiry regarding the reliability of the firm furnishing antitoxin supplied by the Board. Evidently the writer was not familiar with the particular brand of antitoxin supplied by the Board and, as many other practitioners of the state were found to be unfamiliar with this product, the editor believed that the information desired might be valuable to a great many of our members. As the letter was marked confidential, and as the editor was not able to answer it to the full satisfaction of the questioner or himself, he communicated with the writer, asking his consent to put his letter in the correspondence columns of THE JOURNAL in order to bring out discussion on the merits of the Lederle antitoxin. The answer to the editor's letter was dated September 28, and reads as follows:

"If my letter to which you refer goes into print, I prefer it to be over my own signature, as I have nothing to fear from an expression of my opinion. However, if you wish to publish it, I ask you personally to remove from it any crudities and to punctuate it properly so that it can not be assailed as an imperfect production of an untrained mind.

"I also ask you if there is any unjust reflection on the State Board to tone it down, as I have no acquaintance with any member, save Dr. Egan, and my distrust in him is not founded on anything that would enable me to protect myself were he to attack me. I wrote the letter hurriedly and not for publication, and so if you print it you must arrange the sentences in a proper sequence, as a personal letter often looks wretched in print.

"If I mentioned the names of other producers of serum, please omit this, as I am not howling for any particular firm."

On receipt of this communication, the editor answered that, anticipating his favorable response, and thinking possibly that he did not want his name used in connection with the letter, the communication had been forwarded to the publication office, with the initials "S. I." subscribed, meaning Southern Illinois, and, unless he still wished his name added, we would let it go in that way.

From this correspondence it will be seen that the letter which the Secretary intimated was not written in good faith, and was possibly dictated in the office of THE JOURNAL, was really written by an honest inquirer after facts and for the purpose of protecting his patrons, and, furthermore, there was no desire to cast any discredit on the serum being supplied, nor to advertise any antitoxin with which the writer might be familiar. Under these circumstances it certainly became the duty of THE JOURNAL to ask the information for its reader and to protect him in his efforts to learn the truth. From the language of the second letter, in the mind of this writer, it does not appear that the endorsement of the Secretary of the State Board of Health necessarily adds anything to the "strong position" of any preparation issued under his auspices.

Secretary Egan's effort to show that any intelligent physician would be deterred from using the Lederle antitoxin because of the insertion of the letter in our November issue signed "S. I." is absurd.

After having worked himself up to a fine frenzy about this letter through three pages, the Secretary then naively proceeds to tell us something. He informs us, first, that the contract was not let to the lowest bidder and, second, that there are really some persons on the war path for this particular brand of antitoxin. This, notwithstanding the Lederle antitoxin is manufactured under the license of the United States Government and has the endorsement of the Illinois State Board of Health. If the supervision of the United States Government is so efficient and the reliability of the company supplying this serum is so established and the endorsement of the Illinois State Board of Health is so compelling, how does it come that "representatives of other commercial houses supplying antitoxin vie with each other to decry the worth of the antitoxin furnished by the Illinois State Board of Health and that druggists in

several parts of the state have come out in open opposition to the free distribution of antitoxin and have declared their intention of opposing an appropriation for this purpose by the Forty-sixth General Assembly?" As taxpayers, it might also be well for us to ask why the contract was not let to the lowest bidder, all manufacturers being compelled to obtain a license before they enter into the manufacture and sale of their products.

In our December issue, before the issue of *The Bulletin*, the communication of the manufacturers was given in full as requested. Although Dr. Lederle is said to have been formerly Health Commissioner of New York, strangely enough his name is not to be found in either of the National Medical Directories recently published.

Finally, as far as this letter is concerned, there is no question raised regarding the merits of the free distribution of antitoxin. The Secretary's effort to make a mountain out of a molehill, we believe, has ignominiously failed and no more attention should be paid to his insinuations and innuendoes on a worthy member of the State Society or on our motives in publishing his communication.

THE OHIO STATE BOARD OF MEDICAL REGISTRATION HAS REFUSED TO HONOR AN ILLINOIS CERTIFICATE.

Under this caption in our December issue we gave a statement of facts and, according to the promise made in that issue, addressed a communication to the Secretary of the Ohio Board and received the following response:

COLUMBUS, OHIO, Nov. 22, 1907.

ILLINOIS MEDICAL JOURNAL, Springfield, Ill.

Gentlemen:—Concerning the refusal of the Ohio State Board of Medical Registration and Examination in granting to Dr. Chas. C. Faws a reciprocity certificate, we beg to state the following:

In June, 1904, Dr. Faws appeared before our board for examination and received an average grade of 65 per cent., 10 per cent. below that required by our board. In December following, he again appeared and received an average of 73 per cent., falling 2 per cent. short. In December, 1905, he again appeared and received an average grade of 71 per cent. In April, 1906, he presented an application for reciprocity certificate, based upon registration secured in Illinois by examination. This application showed that he received a bare passing mark by the Illinois board. In view of the fact that he had recently failed in three successive examinations, the board refused to grant the certificate.

In December, 1906, he again appeared for examination before our board and *failed in all branches*, receiving an average of 56 per cent. In the first examination he failed in five branches. In the second and third examinations, in three branches each time.

He recently appealed his case to the Attorney General and Governor who, after hearing all the facts and arguments by his attorneys, sustained the board in their action, holding that the matter of granting reciprocity certificates was entirely discretionary with the board, and that since Dr. Faws could not in any way claim a residence in Illinois, he was not entitled under the act to make application for reciprocity certificate.

We are enclosing a copy of our statutes and would call your attention to the reciprocity clause in Section "e," which provides that those residing in one state

and desiring to remove to Ohio and practice their profession in Ohio, are eligible to make application, etc. Hoping to be of further service, I am,

Very respectfully, GEO. H. MATSON, Secretary.

Later we sent Dr. Matson the supplement to the *Bulletin* of the Illinois State Board of Health and received the following reply:

COLUMBUS, OHIO, Dec. 23, 1907.

ILLINOIS MEDICAL JOURNAL, Springfield, Ill.

Dear Sirs:—After having reviewed the article of Dr. Myers in reply to your letter to him, and also after reading the article of Dr. Egan in the supplement to the October *Bulletin* of the Illinois State Board of Health, I feel that there is but one point that we might make clear, and that is concerning the preliminary qualifications of Faws. In the article by Dr. Egan he seems to be in doubt concerning this. Dr. Faws filed with us a medical student's certificate, No. 13, issued to him by Prof. H. J. Eberth, Toledo, entrance examiner for Toledo. That is all that is required of any applicant as far as preliminary education is concerned. I am, very respectfully,

GEO. H. MATSON, Secretary.

It appears from these communications that the case is "yellow" rather than appeared in our December issue. After his failure to break into Ohio by the reciprocity route, Dr. Faws again appeared before the Ohio Board, and at his fourth (Ohio) attempt his grading was far below any previous examination in either Ohio or Illinois. He failed in every branch. Comment on the effectiveness of examinations conducted by the Illinois Board seems clearly unnecessary.

We also addressed a communication to Dr. Park L. Myers, Dean of the Toledo Medical College, and received the following reply:

Dr. Geo. N. Kreider, Springfield, Ill.

December 13, 1907.

Dear Doctor:—Yours of the 10th, inquiring after the record of Dr. Charles C. Faws is at hand.

Dr. Faws graduated from the Toledo Medical College at the end of session 1903-'04. He attended four full years of more than twenty-eight weeks each. His attendance was always fair, averaging well above the 80 per cent. required by our Ohio law. His average grades upon examinations were of the mixed variety. He stood highest in obstetrics. (During his last session he attended eight cases of confinements, two of them alone.) He did well in medicine and surgery under most of the instructors. In other words, in the practical branches, in the branches in which the physician of the past decade was instructed, he made a fair showing. His average grade on final examination was 77 10/11 per cent. This was not high, but above the requirement of 75 per cent.

The faculty debated his case, ere they granted him a vote as a successful candidate. They took in consideration the fact that he was amongst a number just coming under the new law. That he was over 30 years of age; that he had been a practicing pharmacist for a number of years—having much better equipment in the knowledge of drugs than many students thoroughly grounded in rhetoric, Latin and laboratory branches.

I think I ought to say that, personally, I championed Faws' election. I regarded him as one of the last of the old order of students. The new requirements, preliminary, will make it impossible for a student of some of his defects entering schools of to-day. But I regarded him then—and I regard him now—as a much safer, let me emphasize it, *a much safer* doctor, to enter the average household than the majority of the graduates from our colleges to-day, equipped with skepticism in therapeutics, and a frenzy for surgical fame and procedure.

Dr. Faws' failures, I understand, have been mainly due to his faulty orthography and short information in particularly the laboratory branches. But you know, doctor, that many good men are poor spellers, and many a fine laboratory

student makes a worthless practitioner. I would not condone ignorance, especially in a medical student. But there is to my mind, such a thing as "overtraining," and the study in the dead languages, and the multiplicity of laboratory techniques are doing their share in the "scorching."

After all, I believe much of the trouble occasioned by Dr. Faws has been due to an unfortunate set of dispositions in himself and the first Ohio board before which he was examined. He failed fairly enough the first time, but a peculiar pride and an acid temperament did not let him resolve to try again without resentment against the board members. Rather, he went before your Illinois board, passed, and coming back to Ohio demanded, rather imperiously, I am told, that he now be recognized under the reciprocity act. It was the turn of the board members to show their dignity, and they made a first example of the doctor in refusing a recognition. Thus you see the complication. It is unfortunate. His failures, recorded several times, have multiplied the failures scored against our school. The truth is, he is the only recent graduate of our school who has failed anywhere before any state board.

I trust, doctor, I have given you the clear understanding of the "Faws" case you requested. I hope you can assist in curing it. Surely it would long ago have been at rest had not the individual, as usual, had to suffer, rather than the state dignity of a board. Very truly yours,

PARK L. MYERS, Dean.

We might add that the Toledo Medical College was founded in 1882, and after twenty-five years of existence the enrollment of students averages from 22 to 25 and the number of graduates from 6 to 9. Only one other college in Ohio, the Patte Homeopathique of Cincinnati, has such a small enrollment, and only three regular schools in America, one in Maryland, one in North Carolina and one in California, all of them recently established, have such a small attendance. Apparently there is no great demand for the existence of a medical college at Toledo. It is hardly necessary to call attention to the special pleading Dean Myers makes for Faws and the grounds for granting him a diploma, which hardly correspond to the comments of Secretary Egan.

About the only alternative left for Dr. C. C. Faws is to come to Illinois to practice. Here he will be received with open arms, especially if he will consent not to make insinuations and veiled attacks against the infallible Secretary of the State Board of Health.

PHILADELPHIA SURRENDERS AT LAST.

Philadelphia has long been renowned for conservatism in every line and her medical men have been no exception to the general rule. Especially in the matter of ethics the average Philadelphia physician has been said to be "an Hebrew of the Hebrews." It is with considerable satisfaction, therefore, that progressive physicians in all parts of the country will learn that the Quaker city has decided to discard the ancient landmarks and take up modern ideas as regards membership in her county society.

Dr. John B. Roberts, one of the most valuable citizens of the city of Philadelphia, because of his efforts in behalf of good government, as well as one of the most distinguished physicians, as long ago as 1891, in his address as president of the county society, said:

"This society should be liberal enough to accept as a member any physician whose education and personal character make him a fit asso-

ciate for intelligent men," and "the test of qualification for membership should not be the college from which the applicant received his diploma, but an education enabling him to understand and appreciate the science of medicine and an honest purpose to treat his patients by all means and methods which experience, investigation and research show to be serviceable."

These views were far from popular at that time and the society had no idea of accepting them. Nevertheless, appreciating the work Dr. Roberts had done for the society, as well as his ability and character, they re-elected him president.

It took sixteen years for the county society to come up to the advanced standards thus set by Dr. Roberts, and it was only on Oct. 16, 1907, that the society by a vote of 119 to 20 revised its by-laws relative to requirements for membership so that it now reads as follows:

Article 1, Section 2.—Active members must be graduates of at least one year's standing of a medical school legally empowered to confer the degree of Doctor of Medicine, must be legally authorized to practice medicine in the State of Pennsylvania, and must have been residents for not less than one year in the County of Philadelphia; provided (a) that all applicants for membership shall be required to state in writing that they do not accept any sectarian designation or base their practice on any exclusive dogma or system, and must satisfy the censors that they possess the requisite scientific and technical education and qualifications; and provided also (b) that the year's residence shall not be exacted from a physician who removes to the county when he is a member in good standing in some other county medical society in the State of Pennsylvania and presents a certificate from that society attesting the fact.

It will thus be seen that a physician is no longer excluded from membership simply because he happens to have graduated from an homeopathic or eclectic college. The element of doubt, always existent among serious-minded physicians as to the exaggerated claims for new methods of treatment in disease, was formerly carried to an extreme, and was followed by actual ostracism in the case of Hahnemannism. Details of treatment that nowadays would be debated and decided within our own ranks were formerly permitted to create schism and to divide seriously our forces and power for benefiting mankind. In the light of the more charitable spirit and freedom of thought of to-day, however, the call has come for unity in the profession, so that the result in Philadelphia was only what in time was to be expected. It will be the general public far more than even the medical men who will derive greatest advantages from these advances in the proper freedom of thought. Perhaps in time even the lay press may be able to grasp the genuine altruism of our calling and cease classing us with trades unions, isms and pathies. Until then—let us live in hope.

Some members of local societies in central Illinois will do well to ponder the arguments advanced in this presentation of the case, which has been largely taken from the columns of the *Pennsylvania Medical Journal*.

THE MEDICAL DEFENSE OF THE MEMBERS OF THE STATE SOCIETY.

There seems to be considerable misunderstanding as to how much the state society proposes to do with the medical defense fund obtained by the assessment of \$1.00 against each member of the society. There are some who suppose that for this munificent sum they can obtain rights and privileges which could only be paid by an assessment of \$10 per member. We are sure that it is the object of the state society to do as much for its members as can possibly be done, with the amount received, but members should be reasonable in their demands and not expect more than the funds will provide for. In order that there may be some basis on which to work we have asked Dr. Moyer to address us a letter on this subject, and his communication will be found below:

December 11, 1907.

To the Editor:—I notice on page 659 of the December issue of the ILLINOIS MEDICAL JOURNAL the following: "Out of each \$5.00 of annual dues paid to the treasurer of the Chicago Medical Society, the trustees are required to turn \$1.00 over to the Medical Defense committee of the Illinois State Medical Society for the protection and defense of the members of the society against whom suits for malpractice or damages may be brought."

So far the Medical Defense committee has limited the application of the funds at its disposal to the defense of malpractice suits which are actions which grow out of the contractual relations of physicians and patients. The words in the above quoted paragraph, "malpractice or damages," may be and in one instance have been construed as to imply that the society undertakes to defend physicians for any action in damages that may be brought against them. A fair construction of these words would imply that the committee would undertake the defense of any action brought against a physician for damages which might include anything from a suit for alienating a wife's affections down to an action brought against a physician for damages inflicted by a breachy cow in a neighbor's garden.

It would seem as if this proposition was so self-evident that it is hardly worth while to call the attention of the members to it, but as it has been already misunderstood by one physician, it might be well at an early date to specifically state what work the Medicolegal Committee undertakes to do. Yours very truly,

HAROLD N. MOYER,

Chairman Medicolegal Committee Illinois State Medical Society.

SERIES OF ARTICLES ON TUBERCULOSIS.

With this issue of THE JOURNAL we begin a series of articles on the latest ideas in the treatment of tuberculosis. These articles will be written by Dr. J. W. Pettit, medical director of the Ottawa Tent Colony, and will be based on Dr. Pettit's experience in the conduct of this institution, which was founded as a direct result of the crusade started by the Illinois State Medical Society at its meeting in 1904. Since the organization of the colony Dr. Pettit has visited all the leading institutions of the United States, both East and West, and has collected a mass of evidence on the subject, which will enable him to present a series of articles worthy the attention of every one of our readers. In connection with these articles, it might be well to say that Dr. Pettit will be glad to answer any questions that may occur to any of our readers that are not

fully taken up in the articles themselves. In developing the Ottawa Tent Colony a great many new questions arose which had to be met and properly decided. The success attending the colony has shown Dr. Pettit's skill in meeting these questions, and as a result the colony has been visited by persons from all over the United States who are interested in the establishment of colonies in their own communities. Advice on all points has been freely and gladly given these delegations, and thus the movement inaugurated by the State Society has resulted in great good not only in Illinois, but all over the United States.

POTENTIZATION—AN INSANE PERVERSION OF THE HOMEOPATHIC DOCTRINE.

The Bulletin of the Chicago Board of Health has the following:

"Several attempts have been made to have pupils admitted to school having certificates signed by doctors stating that the children had been 'Potentized.' All such certificates are rejected and will not be recognized.

"It is well enough to explain what a 'potentization' is. We are told that 'variolinum' is given internally to a child and sometimes rubbed on the arm, which process 'potentizes' the child and renders such child insusceptible to smallpox. 'Variolinum,' according to homeopathic authority, is prepared by triturating with sugar of milk matter from a ripe vesicle of smallpox. A few high potency homeopathic physicians are practicing this method of 'potentization.' Homeopathic physicians as a body do not practice or countenance this method. Leading members of the homeopathic school have pronounced against it. There is no evidence that such a procedure as 'potentization' has any protective influence over smallpox whatever. On the contrary, we have vaccinated 'potentized' children and never had any difficulty in making vaccination 'take' in such subjects. The practice is not recognized by any health board, so far as we know, in the world, and will not be recognized in Chicago."

Correspondence.

RESISTING POWERS OF THE AGED.

EDITOR ILLINOIS MEDICAL JOURNAL,
Springfield Ill.

Dear Doctor:—Dr. Helm's note calling attention to the resisting powers of the aged to operations tempts me to write of the following case: Mr. W., aged 86, suffering from purulent nephritis of the left kidney, 95 per cent. of kidney tissue destroyed. I removed his kidney at Mercy Hospital in 1904; he was out of bed smoking a cigar in seventy hours; his recovery was rapid.

Respectfully,

M. T. NAUGHTON,

Dec. 12, 1907.

4109 Vincennes Ave., Chicago.

Special Articles.

STATE PSYCHOPATHIC INSTITUTE GETTING UNDER WAY.*

H. DOUGLAS SINGER, M.D.

Director Illinois State Psychopathic Institute.

The State Psychopathic Institute, now being formed at the Illinois Eastern Hospital for the Insane at Kankakee, has in view the improvement of the medical service of the state hospitals for the insane, both in regard to the care and attention given to patients, and also to the scientific study of this branch of medicine.

The first point to be taken up will be the establishment of a well-equipped clinical laboratory for chemical, hematological, bacteriological and microscopic work connected with the examination and treatment of cases in the wards. As soon as the medical staff can be brought to a full strength a course of instruction in case-taking and record-making will be given, and it is hoped that a number of junior officers will be appointed who will be trained both in the wards and in the laboratory, and thus provide a class of physicians better fitted for promotion in the service. It is the aim of the institute in this way to attract to the state hospitals the best class of recent graduates and others from among whom some at least will be found who will make psychiatry a life study.

Furthermore, the systematic and complete records of the enormous mass of material which is available in the state hospitals, records which it is hoped will be discussed and approved or criticized at meetings of the staff of the hospital, should be of more scientific value in the elucidation of the problems of psychiatry and also serve to keep alive the spirit of scientific research, which is the only foundation for a living interest in this work.

After the clinical side of the work has been thoroughly started it is intended to establish a pathological department for teaching and investigation in which may be undertaken any more thorough examination of pathological specimens than can be carried out in the ordinary pathological department of the hospitals. But this, obviously, can only be of value after the establishment of complete and methodical clinical data.

Until the institute can be thoroughly organized it will be necessary to limit the work to the officers of the Illinois Eastern Hospital, but as soon as possible the various other state hospitals will be invited to send members of their staffs to work for a time in the institute.

The building in which the Psychopathic Institute is being installed at Kankakee was originally erected for postmortem work, but has for some years been used as a general library and meeting-room for various purposes. Considerable alterations in its interior have been necessitated, but are now well under way as regards the fitting up of the clinical laboratory, and a large proportion of the equipment for this department

* From the forthcoming State Board of Charities Bulletin.

has already arrived. This consists of the most modern appliances for the examination of the microscopical, chemical and physical conditions of the blood, urine, cerebrospinal fluid, etc., and also a complete outfit for making bacteriological investigations, comprising incubators, sterilizers and the necessary appliances for the preparation of culture media. Some delay has been caused by difficulties in obtaining suitable plumbing, part of which has had to be made to order, and also from the necessity for importing some items from abroad, such, for instance, as the incubators, which were not obtainable in this country, fitted to be heated and regulated by electricity, which is the only convenient source of heat with which the institution is supplied.

The object of this laboratory is to carry out any of the more complicated investigations which cannot be made at the bedside and is not intended to take the more simple examinations out of the hands of the ward physicians where they properly belong. Arrangements have also been made with the superintendent of the hospital for the institute to take charge of certain wards where an attempt will be made to teach by example as well as by precept the methods of the bedside examination of patients; modes of treatment and the manner of diagnosis and record-keeping. With this in view an order has been placed for some of the modern instruments for making and recording such observations, such as the sphygmomanometer for examining the blood pressure, perimeter for examining the field of vision, dynamometers for testing the strength of muscle contractions, etc. From the progress which has now been made it is hoped that the work will be fairly started by the first of the new year.

[H. Douglas Singer, M.D., M.R.C.P., was born in London, England, on Jan. 7, 1875, educated at Merchant Taylors' School in London, and from there obtained a scholarship in chemistry and natural science. He entered as a medical student at St. Thomas' Hospital Medical College, London, in 1893, and graduated in 1898, receiving the usual diploma of L.R.C.P., M.R.C.S. In the same year he also graduated as a Bachelor of Medicine (M.B.) at the University of London, receiving honors in medicine and forensic medicine. In 1900 he obtained the degree of M.D. at the University of London, and in 1901 was admitted as a member of the Royal College of Physicians. In 1899 he was awarded the Bristowe medal for pathology and pathological anatomy, and in 1902 was appointed assistant examiner in medicine at the University of London. He has held the following posts: Resident House Physician at St. Thomas' Hospital, London; Assistant Superintendent of the Clinical Laboratory, London; Junior and Senior Resident Medical Officer of the National Hospital for the Paralyzed and Epileptic, Queen Square, London, 1900 to 1902; Resident Assistant Physician, St. Thomas' Hospital, 1902 to 1904. He also took postgraduate work at the Bethlem Royal Hospital for the Insane, London, and at the Hospital for Sick Children, Gt. Ormond street, London. He went to Nebraska in 1904 and practiced in Omaha as a specialist in nervous diseases until July, 1906. During that time he was on the faculty of the medical department of the Creighton University, in nervous diseases, and neurologist to St. Joseph's Hospital. In 1906 he was appointed first assistant physician to the Nebraska Hospital for the Insane at Norfolk, Neb., and also was appointed to lecture on psychiatry in the medical department of the Nebraska State University. Dr. Singer was appointed director of the Illinois State Psychopathic Institute at Kankakee on Sept. 17, 1907. He is married. Dr. and Mrs. Singer have two children.—Editor *Board of Charities Bulletin*.]

RACE SUICIDE FOR SOCIAL PARASITES.*

[Abstract.]

W. T. BELFIELD, M.D.

CHICAGO.

In 1881 there was approximately one murder for every 40,000 inhabitants in this country; in 1906, one for every 10,000. The other serious forms of social parasitism have increased in similar ratio. In the countries of Northern Europe no such increase of crime has been observed. Thus in 1906 there were in Chicago 177 murders; in London, with three times Chicago's population, there were only seventeen murders. In other words, Chicago had thirty-three murders to London's one, per unit of population.

Among the factors which encourage crime among us are the farcical maladministration of our medieval criminal laws; the notorious partnership between many criminals and many public officials; and the maudlin sentiment which has infinite compassion for the prisoner, but none for those of us who manage to keep out of jail. Thirteen of London's seventeen murderers (two escaped arrest) were hung or imprisoned for life within a few weeks after the commission of their crimes; out of regard for our city's reputation we will be silent about the fortunes of Chicago's 177. In the protection of its citizens through the swift, sure and severe punishment of their assailants—and this is the only protection ever found effectual—Chicago compares with London, Berlin or Vienna as does an ox team with an express train for travel.

With the punishment of crime we are concerned as citizens, not as physicians. But in our professional capacity we can teach the public not how to punish, but how to restrict crime, by restricting the breeding of criminals. For the hordes of social parasites who crowd our costly and ever multiplying public infirmaries breed their own kind—and the State pays the bills. Society has never placed the slightest restraint upon their propagation; qualifications for a marriage license are indeed required by a few states, but marriage is nowhere essential to procreation. Society carefully rears all its defectives—criminals, imbeciles, idiots, etc.—to breed more of their kind, and robs its worthy children to do so. The cattle breeder is wiser.

Sterilization of the male criminal by castration, though often proposed, will never meet general approval, because it destroys the subject's sexual power; and while different men worship different gods, all men worship the same goddess—Venus. But sterilization can be secured with equal certainty without the slightest impairment of sexual power or pleasure, simply by dividing the vas on each side—*vasotomy*. This little operation is performed in a few minutes under cocaine anesthesia, through a skin-cut less than half an inch long; it entails no wound infection, no confinement to bed; it is less serious than the extraction of a tooth. That obstruction of this tube does not impair sexuality is abundantly proven by the robust sexual health of thousands of men who

* From an address delivered at a joint meeting of the Physicians' Club and the Law Club of Chicago, Dec. 13, 1907.

have been unwittingly sterilized through bilateral epididymitis, and who never suspect their sterility until their marriages prove barren. That vasotomy itself is equally harmless to sexuality is shown by the experience of those upon whom it has been performed; among these, within my personal knowledge, are married men who took this means, rather than criminal abortion, to prevent the transmission to offspring of their own hereditary taints, such as insanity and syphilis. The sterility caused by vasotomy can be subsequently cured by a slight operation which reunites the severed ends of the vas, should the subject ever desire to beget offspring. Irremediable sterility, such as is desired for the defective classes, is easily procured by removing a piece of the vas—vasectomy. Yet since these people seek pleasure rather than progeny, vasotomy is in practice, if not in theory, sufficient for them also.

In March, 1907, the Indiana legislature passed a bill authorizing the sterilization of "confirmed criminals, idiots, imbeciles and rapists" in the state institutions of Indiana. In the prison at Jeffersonville over 300 convicts under 30 years of age have been sterilized, some by authority of the state, but over 200 of them *at their own request*. This voluntary submission to sterilization by hundreds of convicts removes the only conceivable opposition to this method of protecting society, namely, the sentimental.

THE INDIANA MOVEMENT.*

[Abstract.]

J. N. HURTY, M.D.

Secretary of the Indiana. State Board of Health.
INDIANAPOLIS.

Degeneracy is a defect which differs from disease in that it cannot be cured. If a child is born without legs or arms this is a defect for which there is no cure. The oppression of the defect may be ameliorated by the attention of others, and that is all. Degeneracy, an incurable defect, means there is something lacking in the mental or nervous makeup. Degenerates are increasing faster than the increase of the general population. All the states are continually finding it necessary to erect new institutions for the care of the degenerate, the delinquent and the dependent. The class known as degenerates includes most of the insane, the idiotic, the epileptic, the confirmed inebriates, the imbecile, the sexual perverts, the prostitutes, the tramps, the criminals and the habitual paupers.

Education does not and cannot eliminate degenerates. There is but one way, and that is to prevent their being created. The duration of the lives of the insane, of criminals, of idiots, of epileptics and habitual paupers has been increased about eight years in Indiana in the last two decades. The average duration of life in the same period for the whole population has increased only four and one-half years. The perfect

* Read Dec. 13, 1907, before a joint meeting of the Physicians' and Law Clubs of Chicago.

care given the defective class is the cause of the increased duration of life. This increase is a disadvantage to the degenerates as well as to society in general. But sentiment demands that the care be given, and it is well for the sane and the strong that this sentiment exists. It is the good animal that makes a success of life. It takes good animals to make a nation strong and persistent. Only good human animals are wanted.

The restricting of propagation must be adopted. This is necessary to preserve the nation and even the race under the present conditions of civilization. These truths have led Indiana to adopt scientific and practical methods for eliminating the unfit. The law affecting the problem from the marriage side was passed in 1905. "No license to marry shall be issued except upon written and verified application. The form of application shall be supplied by the state board of health and said board may revise said forms from time to time as may be advisable. No license to marry shall be issued when either of the contracting parties is an imbecile, epileptic, of unsound mind or under guardianship as a person of unsound mind, nor to any male person who is or has been within five years an inmate of any county asylum or home for indigent persons, nor shall any license issue when either of the contracting parties is afflicted with a transmissible disease." The marriage is illegal without a license, and a penalty of \$100 fine lies against any county clerk for issuing a license contrary to law, and the same penalty lies against any person authorized to marry who does so when the applicants have no license.

Strongly enforced, this law, without doubt, will reduce degeneracy in some degree, but will not very greatly affect the evil. The second law aiming at the prevention of the creation of degenerates is as follows:

A bill for an Act, entitled an act to prevent procreation of confirmed criminals, idiots, imbeciles, and rapists: providing that superintendents and boards of managers of institutions where such persons are confined shall have the authority and are empowered to appoint a committee of experts, consisting of 2 physicians, to examine into the mental condition of such inmates.

WHEREAS, Heredity plays a most important part in the transmission of crime, idiocy and imbecility; therefore,

Be it enacted by the general assembly of the State of Indiana. That on and after the passage of this act it shall be compulsory for each and every institution in the State, entrusted with the care of confirmed criminals, idiots, rapists and imbeciles to appoint upon its staff, in addition to the regular institutional physician, two (2) skilled surgeons of recognized ability, whose duty it shall be, in conjunction with the chief physician of the Institution, to examine the mental and physical condition of such inmates as are recommended by the institutional physician and board of managers. If, in the judgment of this committee of experts and the board of managers, procreation is inadvisable and there is no probability of improvement of the mental and physical condition of the inmates, it shall be lawful for the surgeons to perform such operation for the prevention of procreation as shall be decided safest and most effective. But this operation shall not be performed except in cases that have been pronounced unimproved: Provided, That in no case shall the consultation fee be more than three (\$3.00) dollars to each expert, to be paid out of the funds appropriated for the maintenance of such institution.

The law permits castration, but vasectomy is the operation usually performed. It is simple, without the slightest danger, does not mutilate, and may be performed in three minutes without local or general anesthetic. Since October, 1899, Dr. H. C. Sharp, surgeon of the Indiana Reformatory at Jeffersonville, has operated upon 300 cases, and up to the going into effect of the law most of the men sterilized by vasectomy submitted voluntarily to the operation. Dr. Sharp says: "I have never seen any unfavorable symptoms. There is no atrophy, no cystic degeneration and no disturbed mental or nervous condition following vasectomy. On the contrary, the patient becomes of a more sunny disposition, brighter of intellect, ceases bad practices, and advises his fellows to submit to the operation for their own comfort and good."

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

Regular Meeting, October 14, 1907.

The Adams County Medical Society held its regular October meeting on the 14th in the Elks' Club Rooms, Quincy, with the officers and a good attendance of members present. A committee of five was appointed to consider and plan for the taking up of the postgraduate course of study and to be ready to report at the next meeting. Drs. J. B. Shawgo, E. B. Montgomery, Baker, Ashton and Wells were named. The applications of Drs. William Zimmermann, Jr., and W. J. Meyer were received and referred to Board of Censors. After the return of the members from Hotel Newcomb, where luncheon was served, Dr. T. B. Knox read a very practicable paper on "Quarantine Regulations," which brought out a general discussion. A symposium on gastric ulcer was then presented by Dr. W. A. Garner, Clayton, Ill., and Dr. W. H. Baker, Quincy, the former taking up the etiology, pathogenesis and pathology, and the latter the diagnosis, symptoms and treatment of this disease. Both papers were very carefully prepared and were enjoyed by all and discussed by many. Dr. Garner made a clinical report of a perforation of gastric ulcer with death twenty-seven hours thereafter without operative interference. He also showed a specimen of fetal monstrosity of the anencephalic order. Dr. Frank P. Norbury, of Jacksonville, was a welcome visitor.

QUARANTINE REGULATIONS.

DETAILS FOR PHYSICIANS, PATIENT AND FAMILY.

T. B. KNOX, M.D., QUINCY, ILL.

In the light of modern bacteriological investigation the physician who fails to pay proper attention to every case of contagious disease which comes under his observation is doing the worst possible injustice to himself and the community at large. In prefacing this paper with these remarks I hope to confine myself strictly to such quarantine regulations as should be carried out by the physician. The subject of quarantine *per se* shows nothing new in the way of literature in more than ten years. However, a few reminders at this time may not be amiss.

In all cases of contagious and infectious diseases there should be a strict quarantine enforced, especially in smallpox, diphtheria, measles, scarlet fever and chicken pox. The first and most essential procedure is prevention. Every physician when called to see a case in which there is any doubt in regard to diagnosis should enforce isolation from those outside of the household until such time as he can make a positive diagnosis, then if the disease be of a contagious character he should inform the family of the danger to others from contact with the patient, clothing, pets, etc., belonging in the house, and he should caution the family against shaking rugs, etc., in the yard or hanging out clothing, bed clothes, etc., on the line in the yard unless such clothing or bed clothes have first been thoroughly boiled. It has been positively proven that dusting carpets, rugs, etc., has been the cause of some of our worst epidemics of contagious disease. After the physician has made a positive diagnosis he should at once notify the local board of health, who in turn placard the house and give further instructions to the family, and, as a rule, a pamphlet issued by the State Board of Health for each separate contagious disease is handed them.

Physicians are often careless and do not report their cases at once to the board of health and allow two or three days to pass before reporting same, and

in the meantime every child in the neighborhood has heard that little Katie is sick and all come to pay their compliments, and for their trouble carry away an army of diphtheria, scarlet, fever or other germs, either on their hands, face or clothing, they in turn very liberally supplying the schoolroom or the Sunday school in the next few days, and in this way a dreadful epidemic is started which with a little judgment on the part of the physician in the start would have been averted.

It is unnecessary for me to make any mention of the various carriers or the different ways which the disease is spread, as every intelligent physician is thoroughly conversant with the facts. In houses where a quarantine is in existence no one should be permitted in or out of that house. As now is the custom, the father and sons are allowed to come and go at their pleasure. The patient should be isolated in the upper part of the house, and where this is not possible the whole family also should be quarantined, as there is no such thing as was and now is practiced here, of fumigating the persons mentioned and allowing them to go. They have already been exposed to the same contagion as the one down with the disease, but have been more fortunate in not taking the poison into their system and succumbing also.

You probably will be surprised if I state that there exists in this city, among our own profession, men who do more damage than a dozen ignorant laymen when they tell their patients that they neither believe in and refuse to use antitoxin and vaccination; such men should be sought out and have their licenses revoked. There is very little excuse now for a child to die of diphtheria. The doctors do not use antitoxin early enough or in large enough dosage. You can do no harm in using too much, but you can do irreparable damage by not giving enough. The present epidemic of diphtheria is in a measure due to the carelessness of some of you in not following proper quarantine regulations and removing same too early, also a good many of you fail to give an immunizing dose to those in the house who are unaffected, especially the children. All cases of sore throat should be looked upon with suspicion and isolated until you are sure of your diagnosis. In one room of a certain school there are eight children ill with diphtheria and three more of the same room have died in the past month. Nearly all of our present cases exist in this school district. It certainly looks as if the proper quarantine has not been enforced, and also shows that we have been careless in overlooking cases of sore throat. I have been digressing in my remarks and referring freely to diphtheria, but what applies to diphtheria applies to all contagious diseases; therefore I will close my remarks by referring in future to diphtheria.

Filth plays an important part in the spread of diphtheria, for insanitary conditions tend to lower vitality, therefore increasing susceptibility to disease. Sewer gas may also be a carrier of contagion, overcrowding, faulty ventilation, filthy conditions of habitation, damp cellars, damp houses, pets, all favor the spread of disease. Children under 15 are most susceptible, therefore all cases of sore throat in those under that age should be looked upon with suspicion and temporarily isolated; a healthy child is not as susceptible as one weakened by insanitary conditions. Diphtheria may attack a person more than once.

Every case of diphtheria or other contagious disease is dangerous to life. A delay may be dangerous to the patient; therefore, in cases of suspected diphtheria, don't wait for a report from the state board, but give antitoxin at once. It does no harm and is of positive benefit in other forms of sore throat, so you make no mistake in giving it. In cases of membranous croup, which are really laryngeal diphtheria, antitoxin is of benefit.

Diphtheria is a preventable disease. A rigid observation of the rules of the State Board of Health will often prevent the introduction of the disease and is always followed by a limitation of the disease to the first few cases. If diphtheria spreads from one house to another some one is to blame. A child is attacked with diphtheria within two or four days after exposure, sometimes within twelve hours; a child after being exposed should be carefully watched for a week or ten days and on the slightest sign of illness should be separated from the others. Keep children away from sources of contagion, do not allow them to go

near an infected dwelling or mingle with children in close proximity to an infected dwelling. During the prevalence of contagious diseases you should warn those with whom you come in contact to avoid public gatherings and the like.

Do not allow other children to use dishes, toys, etc., used by an infected child. Discharges from the patient should be destroyed. Quarantine should never be removed under two weeks. Many of you have it removed sooner, but it is dangerous. The quarantine should not be removed until after thorough fumigation of the premises. The present method of quarantine as carried on in this and other cities is pretty much a farce in allowing members of the family to roam about at will, and in places where the family obey the quarantine cats and dogs are permitted to roam the neighborhood. These pets, or rather pests, should be destroyed. The manner of disinfection as carried out by the local board is also farcical; it should either be done thoroughly or not at all, as a partial disinfection does no good whatever. Deodorants merely remove one offensive odor and replace it with another, but they do not disinfect. In one case in which I attended, the crib in which the baby lay ill with diphtheria was placed in an adjoining room while the sick room was disinfected. It is not enough to disinfect the sick room alone—the whole house should be thoroughly disinfected. If worth doing at all it is worth doing right. And in this way only will the public be protected. I would call your attention to the pamphlets issued by the State Board of Health as being worth your while to look over, giving you all the details in regard to quarantine and disinfection.

Another important point which is carried on in some of the larger cities is that of disinfecting flats and tenements after a family moves out and before another moves in, and in this way the family moving in is protected, not only from contagious diseases, but also from infectious diseases, as tuberculosis.

Regular Meeting, Nov. 11, 1907.

The regular November meeting of the Adams County Medical Society was called to order at 11:30 a. m., November 11, in the Elks' Club Rooms, by the president, Dr. J. H. Rice. Others present were Drs. Williams, W. W. and J. G.; Shago, J. B. and Kirk; Brenner, Koch Ashton, Germann, Knox, Miles, Kidd, Millen, Montgomery, Gilbert, Ericson, Lierle, Hart, Groves, A. W. Meyer, Knapheide, Pfeffer and Wells. The committee on the proposed postgraduate study reported as follows:

The committee appointed to consider and plan for a course of study in the Adams County Medical Society beg leave to report that they find the proposed course of study not advisable for the society as a whole by reason of its infrequent meetings and scattered membership. They therefore recommend that a Physicians' Study Club be organized from the membership of the society, with power to acquire property, select quarters and facilities for carrying on the work appertaining thereto. If these recommendations are approved by the society they ask for further time to perfect the plans for such an organization.

After considerable discussion, the report was received and approved and the committee given further time.

DUMB-BELL FOR INTESTINAL APPROXIMATION.

JOSEPH B. BACON, M.D., MACOMB, ILL.

(Abstract.)

The numerous methods of suturing that are described and the various mechanical devices described in recent standard text-books of surgery go to show that the ideal method for intestinal approximation or anastomosis has not been found. The new method of operating and the new device which he showed is the result of two years' original work. He began with the idea that if an end-to-end approximation of an intestine or an anastomosis of the intestine with the stomach, either where we use the severed end to make the anastomosis, or make it with a lateral union, all of the connective tissue must be incorporated in the fixation method, if we are to safeguard against leakage and get a firm safe

union. This is what Nature does when one organ becomes agglutinated to another, and ultimately becomes anastomosed as a result of septic infection. After experiments he finally succeeded in making a hollow dumb-bell accomplish the desired result. It acts simply as a hollow cylinder for the passage of liquids and gas, and at the same time gives a base upon which we can tie all the connective tissue in one firm grasp by means of a rubber or silk, or both may be used. We have a firm union for three or four days while the serosa and muscularis are becoming united by an organized lymph in their new position. In from three to four days the organized tissue is a safe barrier against leakage. The ligature necroses through the connective tissue by this time and frees the device.

This dumb-bell is made of aluminum, hence is very light. Three sizes are employed, one for children, one for adults, and the largest size for the colon. Dumb-bells made or moulded of soft rubber or any digestible material may be used in the same method. He prefers the durable, light aluminum one. He desires the connective tissue to hold for at least three days, preferably five, and in his experiments on pigs found that it was freed in from four to six days. The rubber or silk ligature should be wrapped firmly around the tissues and the dumb-bell twice and securely tied with several knots. Since the knots and the ligature material are left within the lumen of the bowel the quantity does not make any difference. The ligature material should be coarse, a rubber band about one-fourth inch broad or heavy braided silk, that it may necrose through slowly. Silk or linen in the hands of a beginner are not so safe, as any sawing motion of the ligature in its application might cut through and thus require reamputation of the gut and a serious prolongation of the operation.

Operation for end-to-end approximation is done thus: The two ends of the bowel are secured by a suture at the mesenteric border, care being taken to include in this suture the V-shaped mesenteric triangles. Directly opposite the mesentery, on the periphery of the intestine, another suture is placed. Each of these sutures are tied loosely, as they are only used for the purpose of invaginating the two ends of the bowel. Two inches from the end of the intestine along its peripheral border an incision is made through its wall one inch in length. This incision is made in the proximal end of the intestine, if it be enlarged, otherwise in the distal end. A pair of forceps is now passed through this incision into the intestine and the tension sutures secured and drawn through the incision. Now steadying the mesenteric border of the intestine between the thumb and finger and drawing the sutures invaginates the two ends of the intestine into each other and through the incision. The dumb-bell is now placed into the ends of the invaginated intestine and the ligature applied at a distance of one-half inch from the ends of the severed intestine encircling it and the handle of the dumb-bell. Disinvaginate by gentle traction and pressure upon the dumb-bell, unite the peripheral incision by a Czerny-Lembert or Gély suture, then complete the operation by suturing the mesenteric opening.

The author stated that the three sizes of the dumb-bells by the ligature method can be made to fulfill any requirement in any operation from the cardiac end of stomach to the rectum. The advantages claimed by the author for the dumb-bell device are: simplicity of this method of operating; simplicity of the operation; the absolute safeguard against leakage, as the ligature secures all of the connective tissue; the short time in which the operation can be performed; the dumb-bell cannot remain at the site of operation more than four or five days, as the connective tissue will all have uniformly necrosed by that time; the extremely light weight of the dumb-bell, its size and shape, insure against the possibility of its lodging at any part of the alimentary tract; no reinforcement sutures are necessary; the minimum amount of cicatricial tissue that ultimately remains.

The lecture and demonstration of Dr. Bacon were very much enjoyed and were profitable to the large number of medical men in attendance. On motion the society extended a vote of thanks to Dr. Bacon for his admirable address.

CLARENCE A. WELLS, Secretary.

Communications from Dr. John L. Porter, of Chicago, in regard to his lecture and clinic for December 9 were read, also letters from the state secretary. The censors made a favorable report on the application of Dr. William Zimmermann, Jr., and he was elected to membership by ballot. The applications of Drs. F. B. Parker, J. C. Steiner and W. E. Doane were received and referred to Censors. Dr. Nickerson made a motion that the following telegram be sent to Dr. Joseph Robbins, at Mercy Hospital, Chicago: "Dr. Joseph Robbins, Mercy Hospital, Chicago: Adams County Medical Society, at its regular monthly meeting assembled, sends greetings and wishes for your speedy recovery." A card from Dr. Robbins was read showing that he is making good progress following a capital operation at Mercy Hospital. After luncheon Dr. Montgomery presented the following resolution:

WHEREAS, An article of the by-laws of this society is to the effect that it is derogatory to the dignity of the profession for physicians to publish their names in connection with cases or operations in the public print or to suffer such publication to be made, and

WHEREAS, Such publication is a frequent event with some members of the society;

Resolved, That a continuation of such publication will subject such members to the suspicion of being party to the same and render them liable to discipline by the society.

The secretary was instructed to send a copy of this resolution to each member and also to the press of the city. Dr. S. H. Addison, representing the organization work of the national society, was present and made a few remarks. Also Dr. W. Williams of Harris, Mo., the venerable father of Dr. W. W. Williams, told of having witnessed in 1854 the operation of gastrostomy, and strange to relate the patient recovered.

Dr. Joseph B. Bacon, of Macomb, Ill., was the principal speaker of the afternoon and took for his subject, The Dumb-bell for Intestinal Approximation, giving demonstrations of its use and showing specimens of the gut from pigs which had been successfully operated upon.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, Oct. 23, 1907.

A regular (clinical) meeting of the Chicago Medical Society was held Oct. 23, 1907, with the president, Dr. Henry B. Favill, in the chair. Dr. Max Reichmann exhibited (a) Kinematographie Roentgenograms of the Process of Respiration (by courtesy of Dr. A. Kohler, Wiesbaden); (b) Stereoscopic Roentgenograms, with Demonstrations by Means of the Improved Walter's Stereoscope. Dr. J. R. Pennington read a paper entitled A New Method of Ligating the Appendix within the Cecum. Dr. E. Risehar described a similar operation to that outlined by Dr. Pennington. The two papers were discussed by Drs. Ochsner, Barrett, Hessert, Ries, and the discussion was closed by the essayists. Dr. E. K. Findlay reported Two Cases of Infantile Paresis of the Third Nerve, with operation. Dr. Edward H. Ochsner reported An Unusual Case of Mixed Infection of the Hand, which was discussed by Drs. Ridlon, Hollister, Reichmann, and in closing by Dr. Ochsner. Dr. A. W. Baer reported (a) Case of Spastic Paralysis (eighteen years) Since Birth; (b) Case of Tubercular Spine, with a General Paralysis of Thirteen Years' Standing. Discussed by Dr. Ryerson, and in closing by Dr. Baer.

KINEMATOGRAPHIC DEMONSTRATION OF ROENTGENOGRAMS SHOWING THE PROCESS OF RESPIRATION.

MAX REICHMANN, M.D., CHICAGO.

In the last few years different experiments were made to demonstrate in medical lectures, before students and laymen, various pathological conditions by means of kinematographie reproductions.

Dr. A. MacLane Hamilton demonstrated by this method the different gaits, the celebrated French surgeon Doyen had different difficult operations reproduced by the kinematographic camera, causing great controversy as to the propriety of the pictures.

Dr. W. Greenough Chase had epileptic fits biographed and Dr. Levy-Dorn demonstrated at the first Roentgen congress, 1905, Roentgenograms of the knee joint, showing in kinematographic reproductions the movements of the latter. Great interest was evoked by the demonstration of Dr. Alban Köhler of Wiesbaden at the third Roentgen congress at Berlin in the early spring of 1907. The well-known roentgenologist showed by means of the kinematograph the act of breathing as it is performed inside the pleural cavity. Only a roentgenologist can judge the enormous amount of work and patience necessary to prepare the negatives. It would be an easy undertaking to make real kinematographic roentgenograms of every motion of the human body if there would be a film in existence of sufficient sensitiveness, so that the rays, going through the body and the fluorescent screen, could affect it, but, unfortunately, this is not the case yet, and therefore we must divide the motions in different phases, roentgenograph these phases separately and by means of the kinematographic camera, put them together again on a kinematographic film.

Now, just imagine the work to divide one breath into 20 or 22 phases and roentgenograph the same while the thorax is in perfect standstill in each phase, as Dr. Köhler has done in his case. Each phase was projected two or three times upon the film, so that about sixty pictures will pass your eye while you watch one respiration.

The difficulties encountered by Dr. Köhler in preparing the roentgenograms for his film were numerous, so, for instance, it is very difficult to get a number of thorax negatives from the same person while the diaphragm is absolutely still; furthermore, the exposures must be limited in number to prevent burns, but most of all is it difficult to produce negatives which will all have the same contrast and density; in fact, this last difficulty is most perceptible in viewing the picture, and one must get used to the views for a few seconds before satisfactorily comprehending the picture.

The technic in all the exposures was as follows: Thorax of a woman. Ventro-dorsal exposure of twenty seconds with a focal distance of 75 cm.

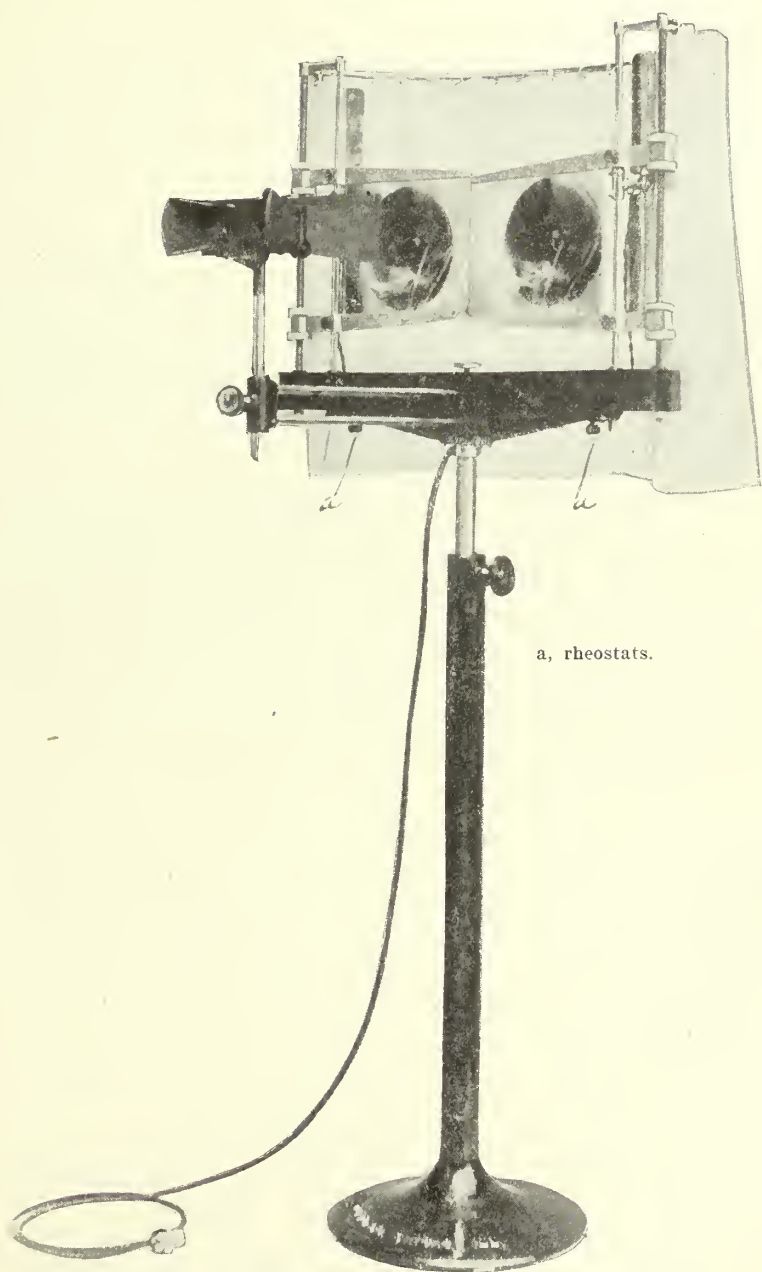
STEREOSCOPIC ROENTGENOGRAPHY.

MAX REICHMANN, M.D., CHICAGO.

Ever since Roentgen made his wonderful discovery, the desire of all the investigators in this field was to produce stereoscopic views by which one would be able at a glance to distinguish, for instance, the position of the fragments in a case of fracture, to calculate the position of a foreign body, to recognize the relative position of the femur and the coxa in a case of dislocation of the hip, etc.

As early as 1897, Professor Mach, in Vienna, made stereoscopic Roentgenograms of the hand, to be followed very soon by Levy-Dorn,¹ who exhibited the first stereoscopic Roentgenograms at the Congress of the German Surgical Society, 1897; Hildebrand,² who constructed the first box for exchanging plates without moving the patient; Lambertz,³ Walter,⁴ who constructed a prism stereoscope, by means of which the original plates could be viewed; Lossen,⁵ Matthias,⁶ Becker,⁷ Köhler,⁸ Gillet⁹ and Drüner,¹⁰ who published very scientific calculations for measuring the position of a foreign body in a stereoscopic view; Hildebrand, Scholz and Vieting,¹¹ who published a very instructive collection of stereoscopic Roentgenograms. A complete method of making stereoscopic Roentgenograms is given by Albers-Schönberg¹² and by Gocht¹³ in their works on Roentgenography. In connection with this complete German literature on the subject, I might mention the articles by Boas¹⁴ and Reiniger, Gebbert and Schall¹⁵ on stereoscopic examination with the fluoroscope.

The contributions in the English language on our subject are very meager indeed. James MacKenzie Davidson¹⁶ is one of the earliest workers in this field,



Dr. Walter's Prism Stereoscope, Modified by Dr. M. Reichmann.

also William A. Cotton.¹⁷ A very interesting article was written by Feiss,¹⁸ Williams,¹⁹ Carl Beck²⁰ and Caldwell,²¹ in their respective works on Roentgen rays, mentioning the stereoscopy in a cursory way only.

Among the French authors Bécélère,²² Marie²³ and Ribaut²⁴ deserve to be mentioned.

After a careful perusal of all the literature available, I have come to the conclusion that the method of making stereoscopic Roentgenograms, as it is described by Albers-Schönberg, is the most practical one, and I therefore shall follow this method with slight modifications in describing this important chapter of our art. Besides the usual Roentgen instruments, we need for stereoscopic views the following appliances: Plateholder, tubeholder, stereoscope.

PLATEHOLDER.

As we can not take a stereoscopic Roentgenogram in one exposure, as it is done with the stereoscopic camera, we must use two plates in succession, and it is of the utmost importance that we can change our plates without disturbing in the least the parts which are resting upon them. Hildebrand was the first one to construct such a plate receptacle, but it is rather bulky and not very easy to handle, and Albers-Schönberg substituted for it a box into which another box containing the plate can be easily inserted. In taking up Albers-Schönberg idea I have constructed a device, which in my opinion will save the operator a good deal of time and annoyance.

An ordinary photographic plateholder, divided by cardboard, can be armed with two plates at the same time. Instead of the cardboard I inserted a snugly fitting piece of sheet-lead, or still better, a piece of the well-known ray-proof combination of rubber and lead. In the dark room plates are now inserted on both sides of the lead-plate with the emulsion side outward, the black cardboard to protect the plates from light put in place and the whole frame inserted into a wooden box, which it fills completely. The parts to be examined are now placed upon the box, kept steady there either by bandages or by means of a compression diaphragm, and the first exposure made. For the second exposure the frame is taken out, turned upside down, inserted again in the box and the second plate is ready for exposure. On the top of the outer box the size of the plate contained in the plateholder is exactly reproduced, so that it is a very easy matter to place the object directly in the center. I have found this arrangement a very useful one.

POSITION OF THE TUBE.

It is well known that in order to produce a stereoscopic effect by two Roentgenograms, two exposures have to be made with the anticathode in the first exposure and the anticathode in the second exposure placed not more than $3\frac{1}{2}$ cm. in a horizontal line, either way from the middle of the plate, i. e., the average distance between the axes of both eyes. The simplest way to accomplish this is by means of a crossbar which can be fastened upon the table and which is provided with a tubeholder sliding above it in either direction. The tube is first centered upon the middle of the object to be examined, and therefore upon the middle of the plate, then for first exposure shifted $3\frac{1}{2}$ cm. to one side and for the second exposure $3\frac{1}{2}$ cm. from the starting point to the other side.

This distance of 7 cm. between the two positions of the tube is theoretically incorrect, as Marie and Ribaut have shown, because the distance should be brought into a certain proportion with the thickness of the object, and Marie and Ribaut have compiled a table giving their proportions. But for practical purposes I have found that 7 cm. is best suited for a stereoscopic view of the hands and other thin parts of the body, while for thick parts like thorax, pelvis and hips a distance of 2-3 cm. is quite sufficient.

Albers-Schönberg has greatly facilitated the displacement of the tube by adding a sliding attachment to his compression diaphragm, so that the hard rubber ring at the bottom of the cylinder only is absolutely steady, while the latter can be turned to each side as far as it is necessary. The distance of the displacement is measured upon a scale and the cylinder can be fastened in every

position by means of a screw. To get a correct stereoscopic view it is essential that the central ray of the tube should strike the same place upon the plate in both exposures, and this can only be accomplished by moving the whole compression diaphragm upon its frame a little in the same direction as the cylinder alone was shifted. But for practical purposes this can also be omitted.

In brief, the technic in making stereoscopic views by means of the compression apparatus of Albers-Schönberg is therefore as follows:

Place the part to be examined in the center of the box containing the plateholder, adjust the cylinder so that its axis will go through the center of the part; then after putting a thick pad of absorbent cotton upon the part compress as much as the patient can bear, turn the cylinder to the left, according to the thickness of the body, not exceeding $3/5$ cm., put the board with the centered tube on top of the cylinder and expose according to the ordinary rules. Then remove plateholder and turn it upside down, insert it again, shift cylinder again from Mark O to the right, same distance as before, adjust tube and expose; care to be taken that the time of exposure in both instances is the same and the vacuum of the tube not to be altered to any extent. Still more simplified is this method if the cylinder in the first exposure is held vertical upon the object, and for the second exposure is shifted 2-3 cm. to the right or left. The views so obtained are, so far as stereoscopy is concerned, very satisfactory.

STEREOSCOPE.

After the plates are carefully developed a mask of black paper is put around the picture proper in order to exclude all reflection of the illuminating light, and the plates can now be viewed by means of any of the numerous stereoscopes in the market, care being taken to have the film sides look toward the observer. I prefer the prism stereoscope as constructed by Walter; the prisms are achromatic, can be turned completely around, so that each subject can be viewed from the front and back without changing the plates. I have devised a modification of the Walter instrument, which enables me to raise the pictures always to such a height that the centers of the two pictures are in one plane with the centers of the prisms; furthermore, an electric light attachment is added to the instrument by means of which a homogeneous light, which can be adjusted by a pair of small rheostats, is always available. It is well to know that the plates have to be inserted into their frames in such order, that the plate taken with the cylinder shifted to the right is placed on the left side, and *vice versa*. I have inserted into the instrument two plates of a patient whom Dr. John Ridlon referred to me.

The young man got his hand into a threshing machine, and as you see upon the dorso-palmar Roentgen negative, he sustained severe fractures of the second, third and fourth metacarpal bones. That the fragments were very much dislocated you can notice by looking at the lateral negative, but a most beautiful picture of the conditions you will get by looking at the pair of dorso-palmar negatives taken with the stereoscopic cylinder, and after having done this, I am sure that none of you will have his fracture cases roentgenographed in a different way.

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NEW METHOD OF LIGATING THE STUMP OF THE APPENDIX.

EDUARD RISCHAR, M.D., CHICAGO.

Nearly every operator has some modification or a method of his own for the treatment of the stump of the appendix. That very fact would lead us to believe that almost any treatment of the stump is safe, or that we are still searching for a better method. Judging by journal reports and society discussions, the latter must be true.

Many operators, and with a just reason, object to placing a silk ligature away from a normal exit. We also know that a ligated stump, part uninvaginated within itself, is not ideal surgery. If invaginated unligated, it is liable to hemorrhage. To overcome these objections, I have devised the following method and demonstrated same in the operative surgical department of the Chicago Policlinic.

To invaginate the stump of the appendix entirely and to encircle it with a ligature within the cecum, to prevent bleeding; having freed the appendix and disposed of the meso-appendix, as usual, the appendix with slight traction is held away from the gut by the assistant. The gut is entered with a straight, round and preferably not too sharp needle, with silk ligature, at the base of the appendix opposite the meso-appendix. The base is divided into thirds. The needle exits at the angle of the first third. A forcep is applied to the ligature to act as a holder. The needle re-enters its exit, but including a slight amount of the muscular and mucous membrane of the first third, to act as anchorage for the suture and loop "A" is formed. The needle now proceeds to the angle of the second third which is made the same as the first third and loop "B" is formed. Our needle re-enters the same as before, including musculature and mucous membrane of the second third; exits at the same point of first entry, making the last third, and we now have Figure 1.

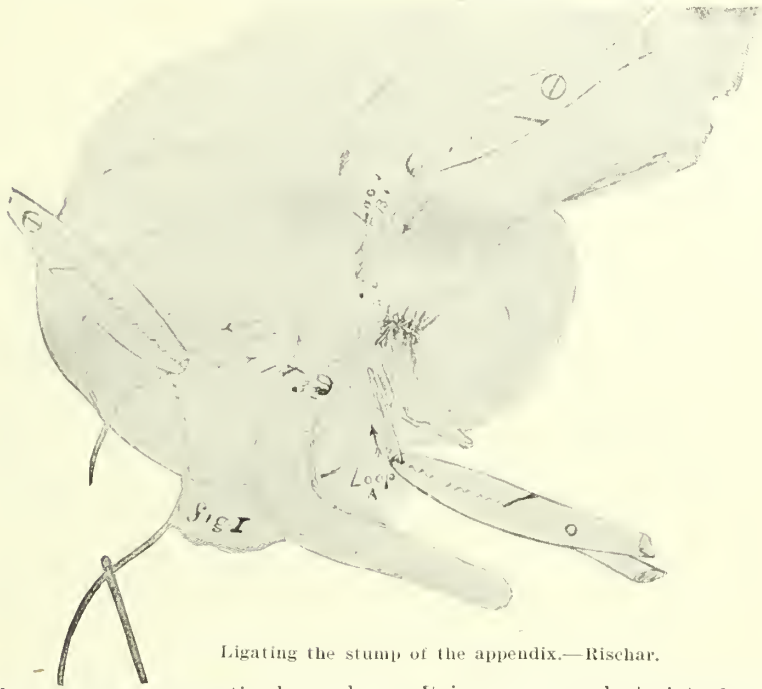
With the three forceps on the exposed sutures, the structures are held in position, the appendix is cut off and invaginated. The forceps are now removed and the slack of the loops taken up, and now we have Figure 2. We now push the invagination still lower and tie. If for reasons you do not want to enter the lumen of the gut, only enter to and keep the needle running between the mucous membrane and muscularis, coming out at the angles same as given above. The whole is covered with external catgut, Lambert suture. The meso-appendix is disposed of as usual.

Dr. Pennington read a paper on A New Method of Ligating the Appendix within the Cecum.

DISCUSSION ON PAPERS OF DRS. RISCHAR AND PENNINGTON.

Dr. A. J. Ochsner:—The ingenious methods that have been described should not go without discussion, especially as they seem to illustrate a surgical principle which demands that every useless method should at the same time be harmless.

Since Dr. M. L. Harris of this society introduced his very simple method of treating the stump, thousands of appendices have been safely removed by following his directions. I have myself removed more than 2,000 appendices by this



Ligating the stump of the appendix.—Rischar.

method without postoperative hemorrhage. It is necessary only to introduce the purse-string suture so that a portion of the stitch is placed entirely around the



Ligating the stump of the appendix.—Rischar.

point at which the vessels of the mesenteriolum enter the appendix in the form of a carefully applied loop and to place each stitch of the entire purse-string suture deeply enough to make sure that the point of the needle is engaged in the

submucous connective tissue. The latter step is important in order to prevent oozing from the edges of the appendix which may occur if the purse-string suture is taken too superficially. A second row of Lembert's sutures, which grasps the end of the stump of the mesentericolum, is advisable to dispose of this raw surface.

Dr. Channing W. Barrett:—In connection with these papers, I wish to present a simple method of closure which I have used for a number of months, and which seems to answer the purpose. The principle of turning in the appendix and having it safe is based on getting a suture deep enough so that very little of the appendix structure is inside of the suture before it is turned in, and a great deal of the appendix structure is outside of the appendix before it is turned in, so that when it is turned in the thing that is outside is on the inside.

Let this illustrate a cross-section of the appendix (indicating). You pick up the appendix, you start in on one side with the needle, going sufficiently deep into the structure, not entering the coat, and coming out on the other side. There is very little of the structure of the appendix on the inside of the suture; it is nearly all on the outside. The blood vessel in the stump is on the outside. You put a clamp about the appendix above the suture, crush it, cut it off, and you are ready to turn that inside. It is not a question of bothering with ligatures when you turn it inside. You turn the appendix in and the suture is in the wall of the appendix. When it is turned in you draw on that (indicating), and as a means of turning that in, when it is not tied, I have an appendix tucker. Boldt devised an appendix tucker with a needle on it; Mayo gave it a handle, and I have given the handle a useful end. This crosses the rim made with the forceps, and instead of carrying one down it carries them both down. There are two points, one to go on one side and one on the other. These rough sketches illustrate the suture.

Dr. William Hessert:—In the operation of appendectomy the chief point to bear in mind is the prevention of hemorrhage. I read a paper before this society last year in which I reported three cases of hemorrhage from the appendix, one of which ended fatally, all of the operations having been done by the usual inversion method without ligating the stump. I endeavored to find out in the last year whether there were any ill or unfavorable results from tying the appendix off and dropping it back, and I could not find any one who had any bad results.

The methods of Drs. Pennington and Rischel are too complicated, as Dr. Ochsner has said. Furthermore, I do not believe the method of Harris is safe. I have seen that method used a number of times, and it has been necessary for the surgeon to whip the catgut over and over before hemorrhage will stop, so that passing a loop around the artery, as Harris suggests, does not stop hemorrhage, and personally I would not be operated on by that method. The only safe method to guard against hemorrhage is to crush the appendix and ligate it carefully, and the little stump can be turned in with a simple circular Lembert suture, and that is all there is to it. I do not believe these complicated methods are going to be followed. The main point is to guard against hemorrhage, and the only way to prevent it is to throw a ligature around the stump.

Dr. Emil Ries:—If everybody says something in favor of his own method, I think I may speak in favor of mine. (Laughter.) I published a method (*New York Medical Journal*, July, 1903) which can be carried out without any special instruments. All you need is needle and thread. It is an inversion method, which has the great advantage over other inversion methods, whether the inversion is done by needle and thread or not, of securing any bleeding point better than any other method. Why? Because with all the other methods you have heard of, which invert, we always hear about the operator putting a clamp over the stump of the appendix. With that clamp he compresses the appendix, and therefore at that moment there is no hemorrhage. But from our experience with the angiotribe, we know that clamped arteries are liable to bleed later on, and it is not rational to take a part of the appendix, clamp it, and then invert, because in inverting you separate the parts which have been clamped at first, and therefore the risk of hemorrhage afterward is great. I never clamp the appendix where

I cut it off. I clamp that part which is to be cut off, but the part that is to be inverted is cut off without being clamped. If, then, a vessel should bleed, you can see it at the moment you cut it. Instead of passing my suture with the knot, I pass the thread around the bleeding point and catch it, after which there is no possibility of hemorrhage. This suture disappears on the inside of the cecum. I have done approximately 200 of these operations, and have never had hemorrhage. I have had a number of cases in which I could demonstrate this bleeding point on the table, and how to secure the bleeding point. I thought I would remind you, therefore, of the advantages of my method. It is not patented.

Dr. Rischar (closing the discussion on his part):—With reference to the method being complicated, I will state that whenever demonstrated it is always pronounced most simple and effective.

Dr. Pennington (closing the discussion):—Dr. Ochsner ended his remarks by saying, "It is all nonsense," his remarks having reference to the operation I have described. We all recognize Dr. Ochsner's ability as an operator for appendicitis. Nobody questions it, but there are other men who are good operators who differ with him, and would not allow the method of operating he has described to be used on them.

At the meeting of the American Medical Association, held at Atlantic City this year, when Dr. Wyeth read his paper and expressed his fear of hemorrhage following appendectomy, and described how he ligates the appendix, it was then I began to think about this matter. At the meeting of the Mississippi Valley Medical Association, recently held at Columbus, Dr. B. Merrill Ricketts of Cincinnati reported a number of cases of hemorrhage which he had collected from different surgeons following appendectomy. I attended that meeting, and after he had finished his paper it occurred to me that some method could be devised whereby hemorrhage would be guarded against. When I returned to Chicago I tried the method I have described to you on a cadaver. It is not a difficult operation to do; but it requires a special needle with an eye in the point of the needle; anybody can do it, it seems to me. Of course, I am not doing this kind of surgical work, and those who are doing operations for appendicitis continually know more about the subject than I do. (Here Dr. Pennington illustrated the simplicity of the operation on the blackboard.)

With reference to the circulation, as one of the speakers remarked, this vessel is always in the mesentery; but there are vessels at other points. If the blood supply of the appendix is always the same, then we could devise some method of catching the bleeding point, controlling the hemorrhage, and would not have any further fear about it, but the supply of blood to the appendix varies.

Dr. E. H. Ochsner reported An Unusual Case of Mixed Infection of the Hand.

DISCUSSION.

Dr. John Ridlon:—I want to emphasize one point brought out by Dr. Ochsner, and that is the relation of so-called syphilitic joint disease, whether dactylitis or other joint disease, to tuberculosis. For years we have seen joints which clinically were tubercular joints, but they appeared to have arisen either from personal or inherited syphilis; they recovered under antisiphilitic treatment more rapidly than we could have expected them to recover had they been pure tubercular joint diseases. Of the ten or twelve cases I reported at the last meeting of the American Orthopedic Association, treated by the opsonic method, at the Home for Destitute and Crippled Children, one was a case of personal syphilis, and the other of inherited syphilis, and where I believed the joint disease to be syphilitic. One, a man with personal syphilis, had an ankle joint disease that recovered rapidly under rest and antisiphilitic treatment. Two years later he developed disease in the other ankle. The other case, a child, had the multiple joint disease of inherited syphilis. Both cases showed the typical tuberculo-opsonic index. There is no question but what the so-called syphilitic joint disease is not of that nature, but is tubercular joint disease grafted on a syphilitic patient, and the reason it recovers under antisiphilitic treatment more rapidly than a tubercular joint is because the resistance to tuberculosis is increased by antisiphilitic treatment.

Dr. John C. Hollister:—There is one point which should be emphasized in connection with this paper, and that is the fact that there is a normal tuberculo-opsonic index, and that this normal tuberculo-opsonic index lies between certain boundaries, and if we find an individual after three or four successive examinations shows indices outside of these boundaries, the great probability is that he or she has tuberculosis. The more experience we have in this work, the more we develop our technic in the laboratory, the more we find this to be true. We may reasonably say to-day that if a patient has below .8, or, on the other hand, above 1.2, in one or more instances out of four or five, it is a strong indication that the person has tuberculosis.

There can now be no question as to the clinical value of combining vaccine therapy with surgery. Experiment has proved the fact. The results along the lines of chronic localized tuberculosis, localized staphylococcus infections, boils, carbuncles, have been excellent.

Dr. M. Reichmann:—I would like to ask Dr. Ochsner if the Roentgen ray was used in this case, because it is known that the rays have an appreciable beneficial effect on tuberculosis of the skin, and for the sake of diagnosis I should think it would be a good thing to try it on such affections.

Dr. Edward H. Ochsner (closing the discussion):—We examined the whole right upper extremity with the fluoroscope to determine if possible whether there was any bone lesion, but not finding any, no further use of the x -ray was made in this case.

I expected some discussion on the diagnostic value of potassium iodid, and I wish to repeat that I do not think the fact of tolerance or non-tolerance to the drug is of any value in differential diagnosis of syphilis from any other infection. If a patient takes potassium iodid well it does not necessarily mean that the patient has syphilis. If it causes severe intestinal disturbance or inflammation of any of the mucous membranes it often simply means that the drug is either not given right or that it is impure. We know that pure potassium iodid is an expensive drug, costing wholesale a little more than half a cent a grain. In the manufacture of potassium iodid it is difficult and expensive to remove the last traces of iodate and it is this slight trace of potassium iodid which is present in so many of the samples found on the market that causes the irritation of the mucous membranes no matter whether syphilis is present or not. I have had a number of cases who had undoubted syphilis, but who showed marked intolerance to the ordinary commercial iodid who subsequently took large doses of the absolutely pure drug without the slightest disturbance.

Dr. A. W. Baer reported (a) Case of Spastic Paralysis (18 years Since Birth); (b) Case of Tubercular Spine, with a General Paralysis of Thirteen Years' Standing.

SPASTIC CHOREA.

A. W. BAER, PH.G., M.D., CHICAGO.

This boy, who had a normal birth, is now 19½ years old, and has been under observation twenty months. You see him hold his left hand open quite easily, and when not irritated can stoop and pick up a broom with his right. The most he could do before treatment was to get a fork in his left hand, dig it into a piece of bread or meat, and get his face down to it. Now he does everything for himself but tie his shoes and button his clothes. He cares for a horse and drives one where traffic is light. His speech, which was almost unintelligible, is now quite distinct. Locomotion is improved to such an extent that shoes which formerly lasted one month with a half soling, now last six months. The contracted flexor muscles of the arms have relaxed greatly, doing away with the hard knots on them. The second case is one of caries of the spine, followed by infantile paralysis. This boy of 15½ years, who was taken sick at 13 months of age, was treated by every known means in the forms of casts, braces, and general instruments of torture. When he came under observation at 13½ years, he could sit up and lie down. His legs were useless, no movement and little sensation, the left arm had



a radial paralysis (for which the flexor tendon of the thumb was severed) and a generally weak arm; the right had some strength, supination and pronation, but not complete extension, because of a tubercular process of the humerus two inches from its distal end (shown in the radiograph) and including the elbow joint. The scoliosis is so pronounced that the left leg is two and a half to three inches shorter than its fellow; he sits on the right nates because of this great curvature, and you will notice in the radiograph of the pelvis shown here, that the right innominate bone is quite flat from pressure. This boy helps himself in every way; discarded his brace, can get on a chair from the floor or his bed or rolling chair, in which he goes out alone, a great difference from twenty months since, when he



had to be carried everywhere. He gets around on his hands and knees and if he continues, will be able to get around on crutches. Outside of a little medicine for a special purpose, these boys have had nothing but electrical treatments, the constant and static currents and a little *x-ray*.

The accompanying photographs show plainly some things the boy can do for himself and the *x-ray* shows the bone disease in the elbow.

DISCUSSION.

Dr. Edwin W. Ryerson:—The first case reported by Dr. Baer is interesting because of the severity of the spastic paralysis; otherwise, it is not particularly remarkable. It would have been greatly improved by a surgical operation directed

to the relief of the spasticity, the adduction and the flexion contractures particularly. This second case, given in the program as one of tuberculous spine, would be very interesting if it were a case of tuberculosis of the spine, but it is not. It is a case of infantile paralysis of considerable severity, and I do not think electricity has had much to do with the "great improvement."

Dr. Baer (closing the discussion):—I know what the feeling is as regards electricity in treating this and other classes of cases. If Dr. Ryerson will examine the elbow of this patient and tell me what the original trouble was there, and why the boy had such a deformity, I will be obliged to him. But this deformity is much less to-day than it ever has been. Some six or eight months after treating him the mother came to my office and said the boy would not wear his brace, and I said it would give the muscles of the back a chance to develop and to straighten, and I must say that it is straighter to-day without a brace than with it.

Meeting of Oct. 30, 1907.

A regular meeting was held Oct. 30, 1907, with the President, Dr. Henry B. Favill, in the Chair. There was a symposium on Opsonins. Papers were read as follows: 1. General Considerations of Phagocytosis and Opsonins, by Dr. Ludvig Hektoen. 2. Virulent Pneumococci and Opsonins, by Dr. E. C. Rosenow. 3. Bacterial Vaccine Therapy, (a) in Tuberculosis, by Dr. Mary Lincoln; (b) in Gonorrhea, by Dr. Ruth Vail; (c) in Staphylococcus Infections, by Dr. Grace Frith-Hagens; (d) Clinical Results, by Dr. John C. Hollister. The symposium was discussed by Drs. Dodd, Keating, McArthur, Ridlon, Ochsner, Herzog, Hamilton, Dagg, Butler, and in closing by Drs. Hektoen, Lincoln, Vail and Hagens.

DISCUSSION OF THE SYMPOSIUM ON OPSONINS.*

Dr. L. L. McArthur:—There remains but little to say after the exhaustive manner in which this subject has been presented, yet I feel that a few words can be said with advantage concerning the thoughts which came to me while listening to the papers.

First, it might be inferred from the paper presented by Dr. Hektoen that the opsonic index is not an accurate guide either as to diagnosis or as to therapeutics. Were any further argument needed than that presented by Drs. Lincoln, Vail and Hagens in corroboration of prior investigations, we would find it in the beautiful charts presented (with lantern slide demonstrations) by Dr. Hektoen himself. They illustrate graphically how the index is influenced by organisms and vaccines, also how it enables us to follow the changes thus induced. You have graphic tables of temperature curves, of pulse curves, and of respiratory curves. You will find them of advantage. It is of similar advantage to plot a curve for the opsonic index for the specific organism which one is studying. When the question of leucocytosis came up in its relation to surgical infections, there was shown at first, by some, a decided doubt as to its importance, yet there came a time when it was generally adopted as one of our means of diagnosis and guide as to treatment. So, too, I think we will find it in regard to the opsonic index. It is not accurate to the third decimal point, but it is sufficiently accurate to enable us to have a guide that will not depend upon the mere clinical statement of the patient or the crude clinical findings that percussion, auscultation or physical examination may give. Let us, then, act in accordance with the light we have until we have something better.

Going back to the question of leucocytosis, Brewer has shown that while the leucocytic count is significant, it is not nearly so significant as the leucocytic count which takes into consideration the relationship between the polymorphonuclear leucocytes and the ordinary leucocytes, and when the polymorphonuclear leucocytes are rising with a regular rise, it is of far more significance, and a far more virulent infection obtains, as found clinically, than when the leucocytic count is rising and the polymorphonuclears are staying nearly horizontal, as not infrequently may obtain. So with the opsonic index improvements will surely be made.

* For articles read in this Symposium, see pages 9, 13, 19, 23, 25, 28.

In closing, I wish to say that it would be an enlightenment to us if Dr. Hektoen would explain to those present how the vaccine's influence is exerted on the immunity process by vaccines introduced hypodermically. There seems to be a growing opinion that it must be through the influence of the local normal cells with which the dead vaccine comes in contact, no other means being yet at hand to explain why a system flooded with micro-organisms still has its opsonic index raised by the addition of dead organisms hypodermically.

Dr. John Ridlon:—In connection with this symposium I wish to speak of some cases of chronic joint disease that were treated at the Home for Destitute and Crippled Children. Dr. Hollister and I selected some ten cases which were treated regularly from December 14 to May 1 by vaccine therapy; some of them have received the treatment since that time. Two cases were selected by us that had been growing steadily worse for some months, and might be expected to die within less than a year, to determine if this treatment would save their lives; one has gained and the other has not lost. We wanted to know what influence this vaccine treatment would have on discharging tubercular sinuses. We found that these sinuses would not close up any more rapidly than sinuses could be expected to close in patients in equally good health without vaccination. We wanted to know what would be the effect on beginning tubercular abscesses arising from tubercular joints. We have found that these abscesses went on more rapidly to enlargement and development, with spontaneous openings, than we could have expected them to have done without the vaccination treatment. We wanted to know what would be the effect on the appearance of abscesses in tubercular joints where abscesses could be made out. I am of the opinion that abscesses appeared in some of these cases which would not have appeared had the patients not had vaccination treatment.

There was the question as to the diagnosis of tubercular joint disease. Dr. McArthur and Dr. Hollister were of the opinion that in the opsonic index we had a certain harmless and valuable means of diagnosis of tuberculosis in all cases. Perhaps they think so now, but I do not feel so sure of it, for we have one patient, a girl, with hip joint disease, in good physical condition, who had been under my care for five years, but at that time had two tubercular sinuses and had had a previous one which had closed. In this case the opsonic index was so nearly normal that Dr. Lincoln, who made the examination, thought it was not necessary to make the vaccinations. The other case was one that came to us with rachitic knock-knee, who, after an operation, performed by my colleague, Dr. Wallace Blanchard, an osteoclasia, and some accidents from falling out of bed at home after leaving the institution, developed a chronic condition of the knee-joint, the nature of which was not certain. The joint was stiff, somewhat swollen, and tender. This got better, and got worse. There were other accidents, and it was a question as to the diagnosis. The opsonic index in this case, again, was so nearly normal that Dr. Lincoln did not think it was a case of tuberculosis. Later on, Dr. Hollister excised a considerable part of the knee-joint, and found the tissue to be tuberculous, and there is to-day, after several months, a tubercular sinus in spite of the vaccination treatment, so that I believe we cannot absolutely depend upon the opsonic index as a means of diagnosis of tubercular joint disease in all cases.

There was one other point I spoke of at the meeting of last week, namely, the opsonic index in chronic joint disease associated with syphilis, which we have been accustomed to call syphilitic joint disease, because it improves more rapidly under antisypilitic treatment than does ordinary tubercular disease. One patient, a man, whom we suspected of having had syphilis, developed disease in the right ankle joint from a slight injury, and after a year's treatment by immobilization and antisypilitic treatment he recovered from that joint disease. Two years afterwards, following a slight injury, he developed chronic disease in the other ankle like unto the first, and at about the same time he developed symptoms of locomotor ataxia. The joint disease was syphilitic, in my opinion, but he gave a typical tuberculo-opsonic index. The other was the case of a child with multiple

joint disease in which I believe the syphilis to have been inherited. The child also had the typical tuberculo-opsonic index.

We must therefore conclude either that the tuberculo-opsonic index is not diagnostic of tuberculosis in all cases, or that the so-called syphilitic joint disease is not syphilitic but tubercular.

During the first three months the head nurse at the Home for Destitute Crippled Children has observed all the patients suffering from tuberculous joint disease for purpose of comparison. Here is her report:

DR. JOHN RIDLON, CHICAGO, ILL.

Dear Doctor.—In reply to your request for a report of those tubercular patients under treatment in the Home for Crippled Children, I have had these under my care for the last three months.

NO TUBERCULIN.

Stewart, hip joint. One sinus. Closed completely.

Eddie, Pott's. Three sinuses. Free discharge, malodorous. All completely closed.

Elmer II., Pott's. No abscess. Kept in bed. Is now out of bed and running around.

Sam, Pott's. Five sinuses. Free discharge. Four now closed. Remaining one almost well.

Jake, hip joint. One small sinus. Almost completely closed.

Charlie, hip joint. One small sinus. Improved.

Annie, Pott's. Three sinuses. Two closed. Other one almost well.

Margaret, hip joint. Two sinuses; an abscess has developed in the last month; other sinuses remain the same.

To sum up there has been marked improvement in all the cases but one.

HAVING TUBERCULIN.

About once a week recently. At first it was given more frequently.

Robert S., hip joint. No abscess.

Walter, Pott's. Two sinuses. Amount of discharge decreased.

Rosy R., Pott's. Condition remains same. No abscess development.

Eugenie, hip joint. Small sinus. Healed completely.

John, Pott's. Less discharge at times.

Henry, Pott's. New abscess formed. Discharge of pus very free and malodorous from old sinuses. Not doing well.

Robert L. Splinters of bone coming from sinus. No change otherwise.

Elmer L., hip joint. Abscess. Died of tubercular meningitis.

William. One sinus, improved, often discharging more freely than at first, bad odor, have to change cast frequently on account of it.

Fanny. Two sinuses, unchanged, discharge free.

Tom, Pott's. Has developed two abscesses, both large and discharging freely, not doing well.

Of the eleven having tuberculin four have improved, three have remained unchanged; one died, and three have grown worse.

Respectfully submitted,

E. F. DAWSON.

Dr. E. H. Oschner:—In discussing this subject let us not be carried away by the enthusiasm that is now prevailing, but let us remember that in the treatment of these cases the Wright vaccination treatment should be simply the handmaid to the other well recognized forms of treatment. Any physician in treating, let us say, one hundred cases of tuberculosis and depending for his results on this method alone would encounter frequent defeats and many failures. There are many things in the treatment of tuberculosis which, I believe, are more valuable than the Wright vaccination treatment when employed alone. I believe, however, that in difficult cases, cases complicated with sinuses, secondary infection or other complications the vaccination treatment is of great assistance.

In the past year we have had something over seventy cases of joint and bone tuberculosis in which we used this form of treatment in addition to the other recognized measures, and I feel that we can truthfully say that these cases thus treated have improved faster than a similar number of cases treated by the other measures alone, before the introduction of the Wright vaccination treatment.

There is one very remarkable thing about this method of treatment that I have been able to observe in quite a number of cases. We know that the method of cure adapted by Nature in curing tuberculosis is a process of exclusion. The tubercular focus is surrounded by connective tissue, encapsulated, the blood supply cut off more and more and the tubercular process is practically starved out. In the cases which have been treated by the vaccination treatment in conjunction with the other methods we find that instead of an increase of connective tissue in the capsule, the connective tissue capsule has been practically absorbed.

I have had three cases of bilateral tubercular glands of the neck in whom I operated on one side before the vaccination treatment was begun and then operated upon the other side after they had received the vaccination treatment for several months. In each case the first set of glands removed were inclosed in strong fibrous capsules, while in the second set of glands the fibrous capsules had completely disappeared. The normal process of curing tubercular glands seems to be accomplished by fencing them in, so to speak, by strong fibrous tissue and then keeping the tubercle bacilli out of the circulation, while when vaccine therapy is employed it seems as though the fence is being torn away, in order to let the leucocytes devour them. In tuberculosis of the joints this difference in the healing process may be of the very greatest importance. It is the formation of connective tissue within the joint that is the principal cause of ankylosis and if we can prevent this excessive connective tissue production we ought to have less ankylosis in our joint cases, and I am firmly convinced that in the cases of joint tuberculosis which we have treated during the past year by the vaccination treatment there is actually much less ankylosis than in those cases treated before the vaccination therapy had been added to the other recognized forms of treatment. If this observation is correct, as I feel certain that it is, then vaccine therapy is unquestionably indicated in all cases of joint tuberculosis. At the present time there seems to be three great dangers from the use of vaccination treatment. First, the danger of using it without any attempt at reading the opsonic index. Second, when the first opsonic index is read by one who is inaccurate. Third, when the opsonic index is simply guessed at. The first and the last can be easily avoided, but the second is a real danger. We have tried to teach six assistants to read the opsonic index. Of these six, only three have been sufficiently accurate.

Personally, if I had a tubercular joint I would want it treated by vaccine therapy in conjunction with the other well tried and suitable methods, but I would want to be absolutely sure that the person who is reading the opsonic index knows his business, that he is accurate and reliable and that he is not guessing, because up to the present time the reading of the opsonic index is the only reliable way by which we can differentiate between a therapeutic and a poisonous dose of the vaccine.

Dr. Maximilian Herzog:—There is probably not a city in the world to-day, with the possible exception of London, where there has been so much opsonic work done as right here in Chicago during the last year. We are all doubtless aware that Dr. Hektoen, his associates and assistants, have for a number of years been carrying on work in opsonins, and long before the practical application of them was thought of here in Chicago. The credit for bringing the work forward from the clinical and therapeutical standpoint is due to Drs. McArthur and Hollister, who have for a year or more pushed it with admirably well directed energy. They are certainly largely responsible that so much work of this kind has now been done in this city.

The first question that arises is, are the sources of error in obtaining the opsonic index so great as to make the result doubtful? I agree with Dr. Hektoen, and with those who have said to-night that the sources of error, if careful work

is done, can be largely eliminated, so that we can get a fair approximation to a true standard.

When we began this work at the Michael Reese Hospital eight months ago (and there Dr. Greensfelder was the one to organize it), Dr. Grace E. Papot, who did most of the work, and myself worked on a number of cases of tuberculosis. I made a number of counts on cases which were likewise counted by Dr. Papot. Since I never worked on more than one or two cases at the time, I counted two hundred leucocytes in each case, counting every one, poly- and mono-nuclears. Our figures did not agree. However, after I adopted the same system Dr. Papot used, (who worked on five, six or more cases daily) namely, counting the bacilli in 50 polynuclear leucocytes only our figures agreed so well that we sometimes had a difference in our results of 1 or 2 per cent. only. So if the counting is done very accurately according to an invariable system, the results may be said to be quite reliable.

We have treated at our hospital a number of cases, and have largely confined ourselves heretofore to the treatment of tubercular cases, and only recently have we taken up some other infections. We have had among our material mostly cases of tuberculosis, apparently well adapted to this treatment, and we have had some very striking results; but, again, we have had in probably 50 per cent. of the cases results that have been indifferent or bad.

I have here a number of charts which I desire to pass around for exhibition. As one of our star cases, I may mention that of a patient of Dr. Frank Johnson, a physician from Wisconsin, who presented symptoms of what I thought was hyperplastic intestinal or peritoneal tuberculosis. He had a low index when he presented himself; it went up and he increased in weight, his appetite markedly improved, he was a different man inside of six weeks, and his index has remained normal. We have had a few other cases of local discharging tubercular sinuses which have healed and have remained closed up to date. On the other hand, we have had cases of local tuberculosis which have not improved. Another very favorable case was one referred to me by Dr. Darling, a case of tubercular keratitis. Dr. Darling has notified me that the patient was so much improved that he considered her practically cured.

I had another patient referred to me by Dr. Ries. This man had a local hyperplastic tuberculosis of the rectum. The patient, as was later discovered by Dr. Ries, also had pulmonary tuberculosis. During a prolonged treatment of eight or more weeks his local tuberculosis, which had also been operated on, healed, but the pulmonary tuberculosis did not improve. I found tubercle bacilli frequently in the sputum, and even while they often were inside of leucocytes, the general condition of the man was finally such that he had to be sent to Denver.

I have seen the case of a boy who had tuberculosis of the knee joint. This patient was under treatment by Dr. F. Mueller and was also once seen by Dr. Ryerson. Dr. Mueller has notified me recently that there was marked improvement in his condition, but the boy had also been treated orthopedically by Dr. Mueller, who naturally makes the point that unless we have parallel cases, some treated by vaccines, and others by the old methods, and compare the results, we can not be certain that we have accomplished anything remarkable by the opsonovaccine method.

I have had a chance to treat one case with pneumococcus vaccine, but must confess the case has not been treated properly, because I could not take the index. At the time Dr. Papot was on her vacation, and I did not have the leisure to take the index. The case seemed favorable, however, for vaccine treatment. I had made blood examinations and had established the fact that what clinically appeared to be a chronic rheumatism of some of the joints was due to a chronic pneumococcus infection, with endocarditis. When I first obtained a growth of pneumococci in the cultures, I proposed the vaccine treatment. After three weeks, when the culture had died out, the patient was sent to the hospital, and now wanted the vaccine treatment. I made two blood cultures which were negative,

but after making a third one I succeeded in getting again a growth of pneumococci. I treated the patient for a number of weeks by vaccine injections, being guided by the local reaction, but he did not get better.

In conclusion, I want to corroborate what Dr. Ochsner has said, and what other conservative men have openly said here to-night, namely, that the vaccine treatment, under the guidance of the opsonic index, is not a panacea for all bacterial infections; it is not a panacea for any single one of the bacterial infections. In a certain percentage of such cases of bacterial infections we get good results, hence we are justified in using this treatment and trying to make the best of it, where other methods have failed and whenever there is any hope for results.

Dr. Alice Hamilton:—I wish to speak of the cases of gonorrheal vulvo-vaginitis in little girls which have been treated at the Cook County Hospital in the services of Drs. Abt, Churchill and Baum. We have carried on the work there for the last three months, during which time we have had forty-two cases under observation for periods varying from three weeks to three months. The cases were divided into two groups. In one group of cases we gave the usual local treatment, consisting of douches of potassium permanganate, followed by instillation of argyrol. In the other group we resorted to the vaccine treatment without any local treatment. A comparison of the two groups shows that the advantage is on the side of the vaccine treatment, although the results obtained by it can not be called brilliant. In one group of twelve cases under vaccine treatment the average duration of the discharge was a little less than five weeks. In a group of twelve similar cases in which local treatment was given the average duration of the discharge was a little less than six weeks. In a group of twelve children who had a severe form of the disease the average duration of profuse discharge under vaccine treatment was about fifteen days. In a group of seven children who were given local treatment and who had a severe form of the disease, the duration of profuse discharge averaged four days longer, so that the advantages are slightly in favor of the vaccine treatment.

The chronic cases treated were not so numerous, and it was not possible to control them in the same manner, as no two children could be found who had the same degree and same duration of the disease, and it was necessary to compare the condition before injection with the condition after injection. In three cases in which the duration of the discharge before injection averaged about four and a half months the discharge after injection lasted on an average only sixteen days. Aside from the fact that the advantages are slightly in favor of the vaccine treatment, as far as the duration of the discharge goes, there are other points in its favor. The local treatment of little girls is open to grave objections. For one thing, it has been found that local treatment in the case of little girls has been apt to lead to masturbation. Three chronic cases in the County Hospital, who under local treatment were persistent masturbators, have given up the habit altogether since the vaccine treatment was substituted for the local treatment.

Another thing in favor of the vaccine treatment is this, that it is applicable to all kinds of cases. It can be used in dispensary practice, while local treatment can not be given satisfactorily outside of a hospital.

Dr. T. L. Dagg:—My experience with opsonic work has been in a technical way at the Chicago Laboratory. I have not been following the clinical side of it so much, but I have been struck by the difficulties and sources of error which are constantly coming up in the matter of technic. At present it does not appear to me that we have a very practical working system. When we take into account the difference in value which the strains of a given organism bear, it means a whole lot. For instance, an organism recently isolated from the animal is only slightly, if at all, taken up by the leucocyte, while subsequent strains may be readily acted upon, depending upon the degree of attenuation.

Another factor is the receptivity of the leucocyte. Another thing is in the control. The phagocytic value of your control will vary from day to day. A

control which will give you a phagocytic count of one point to-day may to-morrow, from the same individuals, give you quite a percentage difference. If you use the same individuals to form control, that varying from day to day, it makes it difficult for you to form the opsonic index upon a patient upon whom you are working. The different forms of organisms show different activities toward the opsonic value or toward the phagocytic index, and these factors all combine to make the determination of the opsonic index a rather difficult proposition.

It is to be regretted that we have not a standard. It is hard to get a working standard, so that one group of workers can compare their work with another. Each worker has a standard largely his own, and with these factors always interfering and changing, it does not appear to me to be, at any rate, a scientific method from the standpoint of treatment. In some of the eastern hospitals they have done away with the opsonic determination entirely, and are relying on the clinical symptoms. This is being done in the Johns Hopkins Hospital, where that method is in vogue.

Dr. William J. Butler:—I wish to join Dr. Herzog in paying a high compliment to Dr. Hektoen and his co-workers, and likewise to Dr. McArthur and Dr. Hollister for the admirable work they have done in this field in Chicago. I can assure you that the work of Dr. Hektoen and his associates is more appreciated abroad to-day than it is in Chicago, which they have served to make the leading city in America in the immunity field.

In referring to the papers that have been read this evening, I wish to speak briefly of the diagnosis of tuberculosis. I understood Dr. Lincoln to say that a low index was to be regarded as diagnostic. In my judgment, a low index is not essential to the diagnosis of tuberculosis in opsonic work. It is a variable index that clinches the diagnosis. It is an index to-day, for instance, of 1.0, while to-morrow it may be 1.2 or 1.3, and in a few days it may be 0.6 or 0.8 and so on.

Then, again, in the matter of joint cases, it is here where the index work is valuable, if rightly employed. The mere fact that we get a normal index in joint cases, suspected to be tuberculous, by no means excludes a diagnosis of that condition. Again, the fact that we may get two or three practically normal indices, by no means excludes the diagnosis of tuberculosis. In these cases, if there is no absorption from the focus of infection going on, the index may not vary a particle. If, however, you should employ massage of the joint, or use a Bier's bandage, causing passive congestion, and thus forcing lymph through the focus of infection, it will take up tuberculin from the diseased tissues and, returning to the general circulation, produce an autoinoculation, as will be evidenced by a variable index, that is, one with negative and positive phases. If this measure is employed in the diagnosis of joint lesions you will find the diagnostic value of the opsonic index to increase greatly.

Again, let us take an abscess in a joint or an abscess anywhere that is tubercular, if it increases under tuberculin treatment, guided by the opsonic index, this by no means injures the value of tuberculin as a therapeutic recourse in combating the tubercular process. If an abscess under tension is not being traversed by the lymph or blood serum, that is laden with antibodies resulting from the injection of tuberculin, you will find no local effect. In these cases you must resort to the following procedure: The abscess must be evacuated—at least in part—to release tension and to permit of extravasation of lymph or serum into the focus. In a joint passive congestion, properly regulated, produced by Bier's bandage, may be employed to great advantage, and by so doing you will find the results obtained by tuberculin treatment greatly enhanced. Incidentally, it may be mentioned that this explains the action of induced congestion by Bier's bandage, namely, autoinoculation from the diseased focus; the advantageous or disastrous results depending on a resulting well-regulated or excessive autoinoculation. This likewise explains the good results sometimes obtained by x-ray and Finsen light and other agents, determining blood to seat of disease.

In regard to the lessening of connective tissue around tubercular glands, it has been a matter of observation since the beginning of this work that indura-

tions around tubercular glands, thickening of the skin and scar tissue following operations and healing of fistulæ disappear under treatment, and the overlying skin becomes soft and movable over underlying structures.

With reference to the staphylococcus question, I note that there has been a tendency to use autogenous vaccines. This has been found to be unnecessary, as stock vaccines suffice fully for treatment. At present, in Wright's laboratory, I know that stock staphylococcus vaccines are used entirely. No effort is made to secure autogenous vaccines, and the results obtained are excellent.

As to the treatment of gonorrheal vulvo-vaginitis in children, in hospitals, in my experience the antiseptic injection method has not been very successful. It is true, I have seen the discharge cease, if the treatment was stopped for some time, or even when they were under treatment. However, the results from vaginal irrigations in these cases have not been satisfactory. The results from vaccine therapy, so far as I have observed them, have been highly promising. While my experience with it has not been sufficiently broad to draw conclusions, the results obtained are such as to encourage one to further efforts in this direction. The discharge in many cases has been arrested within ten or fifteen days from the time the vaccinations were begun. I and my assistant, Dr. J. P. Long, have under treatment at this time about twelve cases. In five of them we have had complete arrest of the discharge, and in three of these we have had three successive negative smears, taken at varying intervals. In two other cases, that is, the two of the five in which we had negative smears, the smear was negative at one time and positive at another.

In regard to the preparation of gonorrheal vaccine, I notice that there has been considerable difficulty experienced in preparing it. This can be obviated or overcome by using young cultures of say six or eight hours' time, as recommended by Wright. The twenty-four hour and forty-eight hour cultures give so much trouble in preparing the emulsion and vaccine that they are difficult to work with. They require too much shaking to break up clumps. If you work with six or eight hour cultures you will find that you will have no such trouble with clumping.

To revert a moment to the abscess question, I wish to say that abscesses will increase under the treatment if they are not evacuated, for the simple reason that the antibacterial and antitryptic power of the fluid in the abscess disappears by contact with the bacteria, and consequently the tryptic power of the leucocytes, being uninhabited, acts upon the tissue, digesting them, and thus increasing the cavity of the abscess and its contents. If the abscess is evacuated by a hypodermic needle or trocar and its contents allowed to escape, thus releasing pressure on the abscess wall, the extravasation of serum occurs into the cavity. This fresh serum carries with it antibacterial and antitryptic substances by virtue of which the bacteria are combated and the digestive action of the leucocytes arrested.

Dr. L. L. McArthur:—Before the discussion is closed I would like to say that the experiments made in our laboratory have been conducted, first, to establish the value, if any, of this line of treatment and research. But no one of us has thought for a moment of the abandonment of other measures of treatment for this single one. Of course, in the treatment of any disease we should use all the means we have, but for the purpose of scientific research it is not possible to do that, else our results would be in doubt. Therefore, if the understanding has gone out that we assume this position, that this is the only means of treating any form of bacterial infection, it is a mistake. All means should be used.

Dr. Hektoen (closing discussion on his part):—If I understand Dr. McArthur's question, he asks if subcutaneous injection of minute quantities of bacteria is followed by marked production of opsonins and how the latter are produced. Subcutaneous injections of substances that produce antibodies may give larger positive results than intravenous injections, and relatively small quantities may give larger results than large quantities—a point that should be borne in mind in the dosage of dead bacteria. Right here I would emphasize that the dosage used in

bacterial inoculations is still largely a matter of guesswork, and this should be considered thoroughly by those who treat cases. I cannot say how antibodies are produced when bacterial and other substances are injected, but there is some evidence in favor of the fact that they are produced by the cells at the site of the injection. As regards the accuracy of the opsonic index, when determined by competent persons, I may say that I believe we get fairly constant and harmonious results within certain limits. I am aware that this opinion is not held by many excellent men both in England and here. It is well to emphasize again that the method is not a sensitive one, so far as enabling one to recognize differences in opsonin contents is concerned, and it should not be surprising if in the future opsonins are estimated in the same way as we now estimate agglutinins, because dilutions of serum give a far better idea of the actual amount of opsonins present.

I also feel that it is not sufficiently well recognized that the opsonic index at its best determines only one kind of antibody, namely, opsonin. As is well-known, there are several kinds of antibodies formed in response to injections of bacterial substances, and we do not know at present which one of these different antibodies plays the greatest rôle in healing, nor do we know that when the opsonic index in a given case is high or low at a given time that the index for the other antibodies is also correspondingly high or low. In the case of antitoxic substances, for instance, which we may suppose do develop in infections and infectious reactions, their index might be high while the opsonins are low, or vice versa. Those of you who followed the development in regard to agglutinins may remember that when they were first discovered it was believed that they would constitute a real measure of immunity. But that is not now accepted to be the case, and it may well be that such may prove true also as regards the opsonins. Consequently, too much weight should not be placed upon the value of the opsonic index as an indicator of the total anti-infectious power of the body.

Finally, I wish to dwell again on the importance of the method of tuberculin immunization in the treatment of chronic tuberculosis, the dose being increased so carefully that no clinical reactions are produced, and if thought best, associated with estimates of the opsonic index. As it is found that certain cases of chronic tuberculosis fail to respond to the laboratory method of giving tuberculin, as is illustrated by some of the cases mentioned here to-night, then it would seem proper that other methods should be tried; and the tuberculin immunization method may be of greater advantage also in that the immunity to future outbreaks of tuberculosis may be fairly assumed to be made greater. Those who are interested in the treatment of tuberculosis of the lungs should certainly consider the advisability of taking up again the use of tuberculin upon a larger scale, and to such I recommend a careful study of recent papers by Trudeau and others.

Dr. Lincoln (closing the discussion on her part):—Diagnosis on the basis of the opsonic index is, I believe, of more importance in tuberculosis than in other infections because the clinical diagnosis is often obscure. Dr. Butler misunderstood me in saying there was always a low tuberculo-opsonic index in tuberculosis. I intended to say that the average of a series of observations of tuberculo-opsonic indices was low; for, as he stated, at times it may be very high, while at other times it may be low. An index within the normal range does not necessarily mean there is no tubercular infection.

Dr. Vail:—I would like to ask Dr. Butler what media he has found successful in his opsonic work in getting a growth in six hours which was readily usable in the laboratory?

Dr. Butler:—Blood agar, doctor.

Dr. Hagans (closing the discussion):—Speaking of the use of stock vaccines, one reason why autogenous vaccines are preferable is because patients themselves object very much to having the organisms of other people injected into them. They like to have their own vaccines, and they are opposed to stock vaccines for that reason.

CLARK COUNTY.

The Society met in Dr. Bradley's office at Marshall, Ill., at 2:00 p. m., Oct. 24, 1907. The members present were Drs. Bradley, Duncan, Rowland, Burnside, S. W. Weir, Mitchell, Smith, L. J. Weir. A dozen interesting cases were reported by all members present and many practical points made in diagnosis and treatment.

The speaker of the evening being absent the subject for the meeting, "Infectious Diseases," was taken up and discussed by all present. Among other things it was considered that the milder infectious diseases, measles, whooping cough, etc., were not considered as serious as they are and therefore neglected, that the danger of sputum from a consumptive ought to be known by every one, then a consumptive would destroy his sputum in order to get the approval and benefit of society: that all children ought to be under medical supervision that they may develop into strong, robust men and women so they can resist infection. Proper habits of life (exercise, food, fresh air, etc.) were considered very necessary to increase resistance. All infectious diseases were considered preventable and the scientific prevention is destruction of sputum in consumption, disinfection of feces, urine and all discharges from typhoid fever patients, quarantine in measles, scarlet fever, etc.; that the public should be informed thoroughly upon the prevention of infectious diseases, for about one-half of our race dies of them and their sequelæ: that a doctor should be elected by the physicians of the county and appointed by the state board of health upon a salary who should look after the health of the county, and that the family physician who is the adviser and authority on everything medical should teach his patrons to be afraid of contagious diseases.

New members. The rules of the society were suspended and Dr. R. A. Mitchell was elected to membership by acclamation. Mr. James, a medical student, was present as visitor.

FOX RIVER VALLEY MEDICAL SOCIETY.

The eighty-fifth semi-annual meeting of the Fox River Valley Medical Association was called to order by the President, Dr. A. A. Fitts, at 10:25 a. m., Nov. 12, 1907, at Trinity Parish House, Aurora. The following visiting doctors were introduced and the privileges of the meeting extended to them: H. W. P. Peterson of Dundee, Elizabeth Traut, Annie Braunwerth and A. E. Halstead of Chicago. The Board of Censors having reported favorably on the names of Geo. W. Haan of Aurora, Harriet B. Ward of Elgin, Oscar W. Hubbard, J. C. Augustine and Frederick H. Daniels, all of Batavia, on motion of Dr. Bell they were unanimously elected to membership. On behalf of the Committee on Necrology, Dr. Nason presented a brief biography of Dr. Julia Meiklejohn; Dr. Wm. P. Sherman one of Dr. A. E. Field and President Fitts one of Dr. C. A. Bucher. The chairman of the committee then asked for more time to prepare a report on the death of Dr. L. S. Taylor; this was denied and the secretary instructed to prepare such biography and suitable resolutions of sympathy and spread them on the records of the society and hand copies of the same to the families of the four deceased doctors. Dr. McDonald, of the Committee on Contract Practice, reported that two of the committee had met once and decided that it would be best to wait till other states had settled the question. He then read from the *Michigan State Journal*, the report of a committee appointed by that state society, and also an editorial on the subject from the November number of the *ILLINOIS MEDICAL JOURNAL*.

Speaking for himself he thought it impossible to put a price on another man's labor, but that the man who did contract work injured himself more than anyone else. On motion of Dr. Cahagan the report was accepted and on motion of Dr. Rutledge (the other member of the committee) the committee was discharged.

The retiring secretary-treasurer then made the following report for the three years he had held office:

Active members in 1904.....	22
Active members in 1907.....	65
Associate members in 1904.....	63
Associate members in 1907.....	20
Dropped for non-payment of dues.....	13
Removed from the district.....	6
Deceased	8

TREASURER.

Total receipts (3 years)	\$813.52	
Expenses:		
Printing	\$ 48.95	
Postage, stationery, etc.	26.41	
Banquets	316.65	
Per capita tax, state	298.00	
Balance on hand	123.51	
	<hr/>	<hr/>
	\$813.52	\$813.52

He then spoke very emphatically on the subject of the want of common courtesy on the part of some members in failing to answer letters addressed them by the secretary and bespoke for his successor more considerate treatment and cooperation, urging them to keep the secretary informed of all cases of serious illness or of deaths or of removals or other changes among the doctors of the district. The report was accepted and on motion of Dr. Bell a vote of thanks was tendered the retiring secretary.

The society then proceeded to the election of officers for the year 1908 with the following results: President, Dr. J. W. MacDonald, Aurora; vice-president, Dr. E. H. Abbott, Elgin; secretary-treasurer, Dr. George F. Allen, Aurora; member of the executive committee, Dr. H. A. Brenneke, Aurora; member of the program committee, Dr. J. W. Dreyer, Aurora; member of the board of censors, Dr. R. G. Scott, Geneva; delegate to the state society, Dr. W. C. Bridge, Elgin, alternate, Dr. J. W. MacDonald.

The scientific program then followed: "Histology and Pathology of Ulcer of the Stomach," Dr. Thos. E. Macauley, Elgin; "Histology and Pathology of Ulcer of the Duodenum," Dr. Rozel M. Curtiss, Marengo; "Medical Treatment of Ulcer of the Stomach and Duodenum," Dr. Samuel R. Ward, Richmond; "Surgical Treatment of Ulcer of the Stomach and Duodenum," Dr. E. A. Halstead, Chicago.

Dr. Curtiss illustrated his paper with numerous microscopic slides, and Dr. Halstead his by doing a gastroenterostomy on some viscera. The retiring President, Dr. Fitts, then read a paper on the "Unreliability and Dangers of Paraffin Injections for Hernia." The meeting closed with a banquet participated in by several of the doctor's wives and by no means the least enjoyable part of the occasion.

MEDICAL TREATMENT OF ULCER OF THE STOMACH AND DUODENUM.

S. R. WARD, M.D., RICHMOND, ILL.

It is well to bear in mind that it is an ulcer that we are called upon to treat, similar in its nature to the simple round ulcer found elsewhere in the body. It may be superficial. It may be deep. Differing from simple ulcer elsewhere, so far as treatment is concerned, only on account of its location and the conditions and influences accompanying that location. Rest is the first important step in the treatment of ulcer. A gastric ulcer in its obscurity is subjected to certain antagonistic influences peculiar to itself, irritating food, gastric peristalsis, excess of hydrochloric acid, an impoverished condition of the blood, as well as to irritation produced by exertions of the body in exercise or labor as ulcers elsewhere so frequently are. The diagnosis of peptic ulcer is still one of the difficulties of medical practice. The chronic ulcer with its long history of dyspepsia and emaciation with epigastric pain of a gnawing, boring character extending to the back, also localized, circumscribed tenderness below and a little to the left of the ensiform cartilage, or in the back at points a little to the left of the 9th or 10th, perhaps 12th rib, or those instances of short duration with hematemesis, especially if accompanied with epigastric pain, suggest themselves at once as possible cases of gastric ulcer. But how many cases have existed, run their course for

a season and healed without the patients or their medical advisers ever having realized that they had to do with a gastric ulcer. Then we know that many cases have as their first and for some time their only abnormal sensation, an uncomfortable feeling of gastric fulness and distention after meals, to be succeeded afterward as the ulcer develops by pain after eating. In other instances there may, in the small superficial ulceration, be no noticeable or other symptoms to call our attention to ulcer until a profuse hemorrhage with hematemesis appears, the result of a small erosion opening a blood vessel in the gastric mucosa. Then other cases of perhaps a fairly well-preserved patient complaining after eating, of pain and vomiting with perhaps hyperacidity, perhaps not.

Ewald states hyperacidity was present in 34.1 per cent. of his cases. Thus we might go on narrating many instances of cases where the indications pointing to the presence of ulceration are few and indefinite.

I am led to refer to these because we have learned in later years especially, how important it is to treat gastric ulcer at its earliest stage, if possible. The earlier we treat it the better our results. I think we would all agree that taken in its earliest stage and the patient put upon the simple treatment of absolute rest in bed and even to the carrying out of the proper steps necessary to be taken in the matter of rectal and stomach feeding with peptonized liquid food for two or three weeks, as I shall take occasion to mention later on, that we would accomplish a cure in nearly every instance. The only exception occurring to me being syphilitic or tuberculous ulcers found in their early stages. The former of which would of course require in addition, specific treatment and the latter a constitutional treatment for a longer period of time. Unfortunately, however, for ourselves and our patients, there are opposing influences that too often deter us from this course. Our uncertainty as to the correct significance of the few symptoms presenting themselves to us, the unwillingness of our patient to believe that his condition can possibly be so serious as to necessitate taking to the bed and undergoing such a method of treatment; perhaps his business engagements are such, or the needs of his family, that he does not see how he can spare the time or bear the expense required by such treatment unless he should feel much worse than he does at present. Then there arises in our own minds the possibility of the presence, instead, of such condition as gastralgia and nervous dyspepsia, and we are not so strenuous as we should be and conclude we will see what we can do for our patient and not send him to bed. The treatment so far as we can accomplish it without absolute rest would be first a modified diet excluding all coarse and indigestible foods that would by their presence irritate any possible erosion of the gastric mucosa. If easily digestible forms of solid food can be taken, or semi-solid, without exciting pain or other symptoms of irritation, they could be continued and nitrate of silver $\frac{1}{4}$ gr. and extract of belladonna $\frac{1}{8}$ gr. in pill form three times a day, or nitrate of silver alone in solution of 0.2 to 300 c.c. of water, a tablespoonful every two hours, may be administered. Large doses of bismuth subnitrate in perhaps four ounces of water taken upon an empty stomach in the morning and late in the evening. Doses of 15 to 60 grs. may be given three times a day. Pain has rapidly disappeared under this treatment, and granulation of the base of the ulcer taken place and complete healing followed. For the hyperacidity present in many cases an alkaline treatment is naturally suggested. Belladonna is supposed to be helpful in correcting hyperacidity, still the main reliance is placed upon magnesium and carbonate of soda and potash, to which may be added a carminative or rhubarb and sugar of milk. Some mild form of laxative is essential, as it is important to keep the bowels in a mildly active state. This is useful in all cases and especially in large numbers where from anemia and impoverishment of blood there is constipation. The artificial Carlsbad salt is recommended. Different mineral waters have been helpful. Some mild form of chalybeates with arsenic is often beneficial in these cases, beneficial too in amenorrhea, which is sometimes attendant upon this disease.

Conheim and others have spoken very highly of the use of oil, either linseed or olive oil, given in gradually increasing doses as from a tablespoonful to a wine-

glassful, or introduced into the stomach in large quantities through the stomach tube. Their patients all bore the remedy well, and were relieved of the pain, the spasm and catarrh. Cases that had been set apart for an operation had been cured. After the administration of the oil, the patients were placed in position so that the ulcer was at the most dependent point, as if ulcer of the pylorus, the patient was placed on the right side. Ewald did not meet with such good results. On the contrary some of his patients found the oil so repugnant that they could not endure it, and in one case the retching and vomiting resulting produced severe gastric hemorrhage.

In the more serious classes of cases there can be but one method of procedure. Rectal feeding exclusively for five or six days, consisting of peptonized milk four or five ounces three times a day, the bowels having been cleared an hour before with warm sterilized normal salt solution. Nourishment may afterwards be administered *per orem*. The food to be neither too hot or too cold, warm and taken slowly, in small quantities and at short intervals. Milk peptonized is undoubtedly one of the best forms of nourishment. It may be given two or three ounces every two hours or smaller quantities every hour according to the condition of the patient. While cows' milk holds the first place in the diet list in gastric ulcer, there are not a few individuals who can not take milk without being made sick by it. To those, other forms of liquid nourishment must be given, barley water, Horlick's food, beef peptonoids, gruel made of arrow-root, farina, or oatmeal; these changes also become necessary to those who can take milk.

As symptoms improve, arrest of hemorrhage, relief of pain, an evident improvement in the digestive condition of the stomach, there can be added raw egg in milk or the white of egg well beaten, broths, bouillon, softened crackers, and still later scraped meat. Einhorn has mapped out a table of diet which he has found very generally applicable, his table covering a period of twenty-four days. There is generally sufficient relief of pain so that the external applications may be removed at the end of the second week. And frequently the patients begin to sit up at the beginning of the third week, a half hour the first day and upon each succeeding day little longer sittings as may be indicated by the progress the patient is making in comfort and strength. Should they seem to experience any return of pain the lighter diet with even the return to rectal feeding should be resorted to if necessary. This method of treatment in the majority of cases has proved curable, and in very many cases within the space of three or four weeks. In profuse gastric hemorrhage there must of course be instituted radical measures to control the bleeding. In addition to confinement to bed there should be applied the ice-bag over the stomach. There may be given hypodermic injections or 2 gr. doses of ergotin. Should unpleasant symptoms arise a $\frac{1}{8}$ or $\frac{1}{4}$ gr. of morphin may be added to the ergot. Ten drop doses of adrenalin solution in water three or four times a day may be given. The internal administration of gelatin, one teaspoonful of a 10 per cent. solution. In repeated hemorrhages, Ewald recommends very strongly the injection of ice-water by the stomach tube into the stomach in quantities to empty the stomach of its contents, which he declares are sometimes surprisingly large, and leaving sufficient quantity to act as a check to the bleeding vessel or vessels. The introduction of the tube is preceded by the application of cocaine to the pharynx and if necessary the hypodermic administration of morphin. After an extended experience he expresses himself as having been surprised to see how rapidly the hemorrhage ceased. Another measure is the application of a ligature about an arm or arm and leg. Although some cases of hemorrhage prove fatal they are comparatively few. By far the great majority of cases recover.

In collapse subcutaneous injections of ether 15 to 30 minims in the same quantity of sterilized water or of camphor 1 to 2 gr., dissolved in 15 minims of sterilized olive oil may be administered every three or four hours. Stimulants may be given. Hot applications to the feet. Hypodermic injections of strychnia or digitalis are useful. One or two pints of sterilized normal salt solution per rectum or by hypodermoclysis are also helpful.

For perforation, absolute rest, ice-bag, opium suppositories, the absolute exclusion of food from the stomach, are the well-nigh hopeless measures resorted to medicinally.

It is well to remind patients that for several months after recovery they should exercise care in their diet, not permitting themselves to indulge too heartily in eating and to avoid over-taxing their strength. In those cases where menstruation is not interfered with, the patient should be directed to remain in bed during the menstrual period for several months. So much we may do in the way of medical treatment for peptic ulcer.

About 60 per cent. of all cases, it is estimated, are cured by medical treatment. In the treatment of gastric ulcer we have described practically the treatment of duodenal ulcer. There is never present hyperchlorhydria and therefore no necessity for its treatment. Hare says that the treatment of ulcer of the duodenum is absolute rest in bed, aside from these measures it is purely surgical. And when we think how problematical the action of medicine is upon the duodenum, we are strongly of the same opinion and especially since the surgical result is simply to put the duodenal ulcer at rest.

UNRELIABILITY AND DANGERS OF PARAFFIN INJECTION FOR HERNIA.

A. A. FITTS, M.D., AURORA.

I do not know who first thought of injecting for hernia. I am sure it is nearly as old as the invention of the hollow needle. Decoctions made from the astringent barks have been used, iodine, wine and carbolic acid have been used, with the hope that the inflammatory products would close the ring. The layman has been and will continue to be the prey of the charlatan and quack as long as he has such dread and fear of the knife.

I have had one case for operation since the method of injecting paraffin began (7 years ago) that seemed to teach the unreliability and danger following each injection.

American, age 62. Complete inguinal hernia of left side, reducible and perfectly retained by truss—of seven years standing. January 1, he was injected by some man, who claimed to be connected with the Medical Institute of Chicago. I have no knowledge of the place. After the injection a truss was applied over point of injection and worn three days. There was great pain and swelling, judged by what patient and his family said. On removal of truss the hernia passed to one side of the point of injection and was worse than before treatment.

About the tenth of January he saw the institute man again; he had two more injections made, and again applied the truss. This time he came home and was confined to the house for several days. On removing truss the gut came down, and owing to the swelling could not hold it back with truss. He was like the fishman who was climbing trees to catch eels; when asked what he was up to, said, he was going to catch one of the black devils. Oh, you can not catch one of them in a thousand years. Well, then I'll be after bothering them. So with the patient; he thought he would bother the institute man again and get his money's worth. He went to the institute and received four shots, came home and was confined to his bed.

February 3, he sent for me and gave me the history of what he had been doing, but did not know what had been injected. I found the temperature 104°, a rapid pulse, tongue coated and patient complained of pain in left groin. On examination found in left inguinal space a swelling of a hard nodular mass, extending from Poupart's ligament to external ring, about two inches wide. One inch above Poupart's ligament I found a small fluctuating point over one of the nodules; owing to inflamed condition of parts, decided not to make a complete operation until the condition of patient was improved. I opened a small abscess and cleaned it out, also ordered him a full dose of castor oil, and a thorough flushing of bowel, after action of the oil. On my next visit found temperature normal and swelling very much reduced and was able to make out several hard

lumps each side of the cord. I advised an operation to clean out the injected paraffin and close the canal. Patient and friends consented, so had a room prepared at his home and February 6, assisted by Dr. Scott, we began operation over lower nodule, did not make a continuous incision the length of the canal for fear of local infection about some of the nodules. We found inflammatory products of small abscess, which we removed in mass and continued the incision as near a straight line as possible from one nodule to the other until the ring was reached. We removed seven blocks of paraffin as you now see them. I found the tissues were filled with small flakes of paraffin, and in passing needle through them gave a feeling of frozen tissue. The sack was well down in canal and adherent; loosened it up full length, opened it and returned the bowel to the abdomen, looped sack with catgut, stitched and anchored it above ring by stitching through wall of the abdomen, used chromicised gut for deep work and silk-worm gut for skin. Closed all but lower end of canal, which was packed with wick of iodoform gauze. The wound healed nicely, but on seventh day a small abscess formed, at least one inch from line of scar. I opened this up, finding paraffin. After this the patient made a perfect recovery and there has been no indication of recurrence of hernia.

The lesson learned from this case is, there is more danger in the method by each injection, than there is from a radical operation and the patient has about the same chance of a cure as the irishman had of catching the crows. Some of the dangers are, gangrene of the skin over point of injection, from pressure of paraffin, neuralgia of cord, atrophy of testicle. I believe the profession is somewhat at fault for this class of work. The people are not aware of the small risk of an operation. If there had been one-half said about operating for hernia as has been said about appendicitis, they would be just as willing to be operated. and I believe there are more cases of hernia that require an operation than there are of appendicitis. Every case of hernia over ten years of age and under seventy should be operated, if physically able. I am not so sure of appendiceal cases, for I have seen a number of appendices removed when it would require the examiner to make new pathology to find anything wrong with the organ. I believe that if hernia was as painful as ordinary bellyache there would not be many of them going for methods outside of a good surgical treatment. As there is no pain or other alarming symptoms as a rule, they are allowed to drift along from childhood to old age without treatment.

HISTOLOGY AND PATHOLOGY OF GASTRIC ULCER.

THOS. E. MACAULEY, M.D. ELGIN, ILL.

Owing to the time limit for this paper, and the greater importance of those to follow, I have taken the liberty to omit the histology and the finer pathological findings, and of the substituting a few theories on the etiology.

Gastric, peptic, round, or perforating ulcer, is more frequently single, but may be multiple. Situated more often about the lesser curvature, towards the pylorus, and posterior wall. The ulcer may be non-indurated and involve only the mucous membrane, or markedly indurated and involving all the coats of the stomach. The indurated ulcer can be felt and diagnosed from the exterior of the stomach, at operation or postmortem. In size the ulcer varies from a few mm. to 3 to 5 cm. Shape may be round or oval, horse-shoe, or saddle shaped. The horse-shoe or saddle shaped variety being most often found almost surrounding the pyloric end of the stomach. In depth the ulcer presents most often a funnel shape, with the apex towards the muscular coat. The walls often present a terraced appearance, due to the involvement of the different layers, as the ulcer passes through. The tissues in the immediate vicinity are often markedly indurated, showing the efforts of Nature to restrict the advance of the ulcer.

The general condition of the mucous membrane of the stomach may in some cases, be found perfectly normal, in others there may be polypoid vegetations, and hemorrhagic erosions throughout. The ulcer as it deepens may involve im-

portant blood vessels and nerves, and finally cause a perforation of the stomach walls.

Hemorrhage may be a more or less constant oozing, or sudden, severe and fatal. And why may not the chlorotic and anemic patient be such in many cases because of this constant oozing, not discoverable except by chemical analysis of the stomach contents or bowel movements?

Males die after thirty years of age more frequently from hemorrhage, females before thirty, from perforation. Perforation according to Osler occurs in about 6½ per cent. of all cases, and is said to be less common than hemorrhage, and yet this percentage must be modified by the fact that owing to inflammatory adhesions to adjacent organs, perforation except of the anterior wall may not be recognized, except during surgical intervention or postmortem. Perforation of the posterior wall will be most often walled off from the peritoneal cavity by adhesions to the liver, spleen, pancreas, diaphragm or intestines, and thus the patient escapes some of the dangers of peritonitis, but is still exposed to the dangers of suppuration and ulceration of the organs involved. Perforation of the anterior wall leads almost invariably to a general suppurative peritonitis, owing to the less likelihood of protective adhesions.

Another more or less serious condition incident to gastric ulcer, is the cicatricial contraction, producing as it does a more or less complete change in the size and shape of the stomach, and this with the adhesions that may be made to adjacent organs, interfering greatly with its motor and digestive functions. We find stenosis of the pylorus, hour-glass contraction and dilatation. Cicatricial contraction and a healed ulcer do not necessarily go hand in hand; you may find a stomach all deformed from cicatricial contraction and at the same time find a large and unhealed ulcer. Aside from the interference with motor and digestive functions, the pressure of the cicatrix on important nerves may be a cause of pain. Not infrequently malignancy develops in the seat of the gastric ulcer. What causes an ulcer of the stomach is a question not answered to the satisfaction of all. But Virchow's theory, advanced in 1856, that circulatory disturbance in the larger branches of the vessels which supply the stomach wall represented the starting point, still seems to be the most valid. There is an embolus, thrombus, or some interference with the circulation sufficient to lower the resistance of the tissues to the action of the acid gastric juice, which creates a solution of continuity in the form of an ulcer. It has been noted that in certain countries where the main food of the community consists of a large percentage of potash, chronic gastric ulcer is rare. Hyperacidity may account for the continuance of an ulcer, but hardly as an initial cause. Traumatism may be an exciting cause, such as certain occupations and tight lacing. Blood depravity may be a cause.

Futterer, in an experiment with rabbits, excised a portion of the mucous membrane of the stomach, and then caused a marked anemia by blood destroying chemical substances, succeeded in producing an ulcer identical with the human ulcer, and they located by choice in the same portion of the stomach, and their continuance was, in part or wholly, dependent on the continuation of the general anemia. So if anemia was so necessary for the continuation of the ulcer, he emphasized the necessity of curing the anemia.

Fenton B. Turk, in an article in the *British Medical Journal*, April, 1907, said that there seems to be some toxic condition produced which overcomes the natural resistance, resulting in cytotoxicity and possibly some chemical substance formed within the alimentary tract which, when absorbed, may neutralize the protective bodies in the blood and tissues, resulting in auto-cytotoxicity. He succeeded in producing ulcers in the stomachs of dogs by feeding them the colon bacillus for a variable time. The ulcers showed no tendency to heal, but if the feeding were stopped and the dogs kept on good food, amid hygienic surroundings, and killed after a month or two, the ulcers were found in various stages of healing. Healing proceeded by round cell infiltration and formation of bands of connective tissue. Following the operation of gastroenterostomy there was a marked lessening of the total acidity of the gastric contents, amounting to 30 or 35 per

cent., and usually a healing of the ulcer. And it seems reasonable to suppose that the lessened acidity is a large factor in the healing, for where the secretion of hydrochloric acid is held in check entirely, there is a prompt healing of the ulcer. Gastric ulcer is rare in the very young, but from 15 to 25 years it is common in the female; after that period it is about equal in the sexes. It may occur in old people, giving a history dating back five to twenty-five years. Heredity seems to have no influence. Arteriosclerosis is well marked in quite a large percentage of cases. In cirrhosis of the liver it is comparatively common and is more subject to hemorrhage owing to the impeded circulation in the liver. It is thought by some that the reason the ulcer develops by choice about the lesser curvature and towards the pylorus, is that because this part of the stomach is not subjected to the same amount of contraction as that towards the greater curvature. When the walls contract over a lesion it is more likely to heal than when it is left open and exposed to the action of the gastric juice. Frequency of ulcer of the stomach varies in different localities and countries from $1\frac{1}{2}$ to 4 per cent. or better of all postmortems.

GREENE COUNTY.*

The annual meeting of the Greene County Medical Society was held in the parlors of the Hotel Roodhouse, at Roodhouse, Friday, Dec. 13, 1907. The meeting was called to order at 11:30 a. m. by President Chapman. The following were present: Carl E. Black, of Jacksonville; W. F. Waggoner, E. S. Gooch, Howard Burns, Carrollton; F. H. Russell, of Eldred; E. H. Higbee, L. O. Hamilton, H. W. Smith, of Roodhouse; H. W. Hand, H. W. Chapman, E. K. Shirley, W. C. Day, F. N. McLaren, G. W. Burns, H. A. Chapin, of White Hall.

Communications from Dr. L. Taylor, chairman of the state committee on medical legislation; A. T. McCormick, Bowling Green, regarding the use of nostrums by physicians; J. A. Egan, secretary of the State Board of Health, regarding medical legislation; Geo. E. Baxter, assistant editor of the ILLINOIS MEDICAL JOURNAL, asking co-operation of the members in securing advertisements for the JOURNAL, were read and ordered filed.

The Board of Censors reported favorably upon the applications of E. W. Fenity and E. G. Proctor, of Kane; J. A. Cravens, of Greenfield; W. C. Day and F. N. McLaren, of White Hall. On motion of Dr. Higbee, the secretary was instructed to cast the ballot for the above named, and they were declared duly elected to membership.

On motion of Dr. H. W. Hand, the following resolution was adopted:

WHEREAS, There are now pending in the Senate and House of Representatives, certain bills, which we believe would be detrimental not only to the profession of the state, but to the welfare of the public, which we believe should be defeated; therefore, be it

Resolved, That the Greene County Medical Society request their Representatives in the General Assembly to vote against the passage of Senate Bill No. 581 and House Bill No. 914.

The election of officers resulted as follows: Dr. E. H. Higbee, of Roodhouse, president; Dr. H. W. Hand, of White Hall, first vice-president; Dr. Howard Burns, of Carrollton, second vice-president; Dr. H. A. Chapin, of White Hall, secretary and treasurer; Drs. E. S. Gooch, H. W. Smith and E. K. Shirley, censors; Dr. Howard Burns, of Carrollton, member of the committee on medical legislation. Meeting adjourned at 12:30 for dinner.

Called to order again at 1:30. The Board of Censors reported White Hall as next place of meeting, Friday, March 13, 1908, with the following program: Address by the president, The Status of Medicine; papers by Drs. F. N. McLaren, L. O. Hamilton and E. K. Shirley.

The following resolutions were presented by Dr. E. S. Gooch, and were unanimously adopted:

WHEREAS, It is detrimental to the best interest of the sick and suffering for physicians to prescribe proprietary remedies and nostrums of which they cannot be assured of the composition, and which are sold by druggists indiscriminately to the public; therefore, be it

Resolved, That it is the sense of the Greene County Medical Society that none of its members should prescribe remedies which are not manufactured in conformity with the U. S. Pharmacopeia or the National Formulary, or have not been approved by the Council of Pharmacy and Chemistry of the American Medical Association, and be it further

Resolved, That the secretary be instructed to send a copy of this resolution to each member of the Greene County Medical Society, the editor of the *ILLINOIS MEDICAL JOURNAL*, and the editor of the *Journal of the American Medical Association*.

Dr. Smith of Roodhouse then read a very interesting report of cases of pneumonia treated by large doses of quinin, which called forth considerable discussion by all the members present.

Dr. Carl E. Black then gave a talk on matters of great interest to the physicians of the county, and urged the physicians to keep accurate records of every case, which would be of inestimable value in the years to come, showing wherein statistics gathered by the general practitioner in this way would be of more value than those gathered from hospital practice. He also recommended the post-graduate course as outlined by the American Medical Association.

H. A. CHAPIN, Secretary.

MORGAN COUNTY.

Annual Meeting of the Morgan County Medical Society.

The society held its annual meeting at the Library, December 12, 1907, at 8 p. m. President E. L. Crouch in Chair. Twenty-three members present. Dr. G. R. Bradley was elected to membership in the society. The applications of Drs. Adam Wenger of Concord, Lucian Smith of Chapin, Paul Allyn of Waverly, A. E. Obermeyer of Arcadia and D. N. Harris of Prentice were favorably passed upon by the board of censors and laid over under the rules, until next meeting.

Report of secretary, Dr. A. M. King; report of treasurer, Dr. E. F. Baker; report of librarian, Dr. C. E. Black; report of public health and legislation committee, Drs. Black and Norbury; report of tuberculosis committee, Drs. Hairgrove, King and Hardesty, received and accepted by society.

The following officers were elected for 1908: President, Dr. D. W. Reid; vice-president, Dr. Chas. Cole; secretary, Dr. P. E. Hofmann; treasurer, Dr. E. F. Baker; librarian, Dr. C. E. Black; delegate to state society, Dr. T. J. Pitner; alternate to state society, Dr. E. L. Crouch; member of board of censors for three years, Dr. E. L. Crouch.

As some of the members were in arrears in medical defense and therefore not in good standing in the society, a discussion arose as to whether or not the society approved of the medical defense scheme. On a motion, that the society did not approve of medical defense, a vote was put, which resulted in a defeat of the motion. A second motion was then introduced and passed, that the treasurer be instructed to return to members who have paid only part dues, said part paid, with the statement that the society will only accept dues paid in full. The secretary's bill of twenty-four dollars for one year ending December, 1907, was presented and ordered paid. The papers which were to have been read were postponed until the January meeting.

ALLEN M. KING, Secretary.

PEORIA CITY MEDICAL SOCIETY.

The Peoria City Medical Society met October 15. Dr. C. U. Collins presented a paper on Abdominal Incisions. After first giving the anatomical landmarks with special reference to the intercostal nerves, he considered the incision in the different quadrants of the abdomen, explaining the special benefits derived and difficulties of those usually used. He liked the Pfollenburg operation for mid-line incision, to explore the pelvis. On Nov. 5, 1907, Dr. Kreider of Springfield addressed the society on Congenital Fistula in Sacro Anal Region. On Nov. 19, 1907, Dr. J. W. Pettit addressed a combined open meeting of the Peoria City

Medical Society and the Society for Prevention of Tuberculosis. Dr. Pettit considered the etiology and treatment and prophylaxis especially. He handled his topic so as to meet the needs of the laity. After calling special attention to the needs of a general campaign of education, the meeting was closed by a general discussion by various members present.

STEPHENSON COUNTY.

The fourth quarterly meeting of the Stephenson County Medical Society was held at the court house in Freeport on Thursday, October 31, with the President, Dr. K. F. Snyder in the Chair. The following answered to roll call: Drs. Arnold, Best, E. H. Burns, Clark, Hutchins, L. K. Kareher, Kaber, Mease, Morrison, Moore, Rideout, Rosensteil, Stealy, Snyder, Thompson and Torey. The presentation of clinical cases was a feature of the meeting.

Dr. E. H. Best showed a case of marked ataxia in a boy of 12 years of age. There was beside the inco-ordinate muscular action an increase of patellar and other reflexes, ankle clonus, flabbiness of muscles, drawling speech, drooling at the mouth and general mental hebetude. Ocular examination negative.

L. B. A. Arnold presented a case of carcinoma affecting the inferior maxilla which showed a large sloughed out area with edges greatly undermined. The initial part affected was the lower lip. This was excised on March 2, 1907. On July 6, a growth appeared over inferior maxilla in about the location of the first molar tooth. Incision healed kindly but in two months time a large mass appeared over the jaw which rapidly broke down. Patient now presents a sloughed out area over inferior maxilla six inches square. Glands are markedly affected and patient is quite cachectic. A number of stained sections of the growth were shown.

Dr. K. F. Snyder presented his case of Cretinism which he brought before the society at the July meeting. Since that time the boy has shown marked improvement under thyroid medication. He has received as much as 20 gr. t.i.d. Before reaching this dosage he on one or two occasions gave evidence of over dosage, manifesting all the symptoms of hyperthyroidism. The patient, a boy of 12, resembles one of 6 years of age in so far as his physical development is concerned and mentally is very deficient. Since treatment was begun he has gained 11 pounds in weight and 2 inches in height.

Dr. E. H. Best read a paper on, "Ataxia in Childhood" dilating particularly on the conditions found in Friedreich's disease. Dr. B. A. Arnold gave a paper on "Carcinoma of the Face," and Dr. J. H. Stealy gave an exhaustive paper on "Appendicitis and Peritoneal Adhesions."

UNION COUNTY.

The meeting of the Union County Medical Society was called to order by Dr. S. C. Martin, chairman pro tem. Seven members were present. Dr. James I. Hale read a paper on "Some Hints to Obstetricians," which was discussed by all present. The following officers were elected for the ensuing year: Dr. D. W. Grear, Jonesboro, president; Dr. W. E. Lingle, Cobden, vice-president; E. V. Hale, secretary-treasurer.

WILL COUNTY.

The Will County Medical Society entertained the state society president, Dr. W. L. Baum, Dr. Emil Ries, and Dr. Alfred C. Croftan, of Chicago, at its annual dinner, November 12, given at the Commercial Club, in Joliet. Fifty doctors were present, including a delegation from Morris and other Grundy County towns, headed by Dr. H. M. Ferguson, the Grundy County secretary. They came up to help entertain these three favorites of theirs.

After dinner, Dr. Ries spoke on the subject of cancer. As Dr. Ries had been a student of this subject for two decades he is authority on all that is known and

all that is not known on cancer, and the unknown he says is greater than the known.

Dr. Croftan, in his usual delightful and helpful style, spoke on "The Newer Things in the Treatment of Bright's Disease."

Dr. Baum, in his speech, eulogized Illinois physicians and anticipated the time when organization will make this state society the best in existence. He spoke on "The diagnosis and Treatment of Diptheria."

This Society has completed one month's work of the postgraduate course. We began with the work on "Disease of Blood and Ductless Glands"—the sixth month's work—because it fitted into the work we had been doing. Dr. Cushing led the first meeting and the small attendance might have been discouraging, if we had not had so profitable a meeting, that it seemed worth while to continue. In fact those present were anxious to go on. The meetings have grown in attendance and interest ever since and over half the Joliet members attend. The out of town members have not yet concluded that it is practicable to attend weekly meetings.

One meeting was held without a leader but the members were so generally prepared that it was as profitable as the rest. One bright young physician said he has put 100 hours on the month's work. The interest manifested augurs well for the intelligence of the future members of the medical profession if the plans of a continuous course of study are carried out.

It was thought best to have a practical laboratory man discuss "The Value and Limitations of Blood Examinations," and so Dr. Ralph W. Webster, of Chicago, kindly came down for that topic. His paper was exceedingly valuable and we commend it to societies who will study this subject later in the year.

Annual Meeting, Dec. 10, 1907.

The annual meeting of the Will County Medical Society was held Dec. 10 1907, The society continued the postgraduate study commencing the work on tumors. Dr. A. J. Lennon was leader. Dr. Marion K. Bowles gave a talk on "The Therapeutics of Iron." Dr. Ella Clevedon and Dr. Robert B. Stephenson were elected to membership. The following officers were elected: President, Dr. N. W. Cushing; vice-president, Dr. W. O. McBride; secretary-treasurer, Dr. Marion K. Bowles; delegate, Dr. Watson H. Curtis; member of the medicolegal committee, Dr. Ray B. Leach; member of the state legislation committee, Dr. Marion K. Bowles.

NEWS OF THE STATE.

PERSONAL.

Matt Hill., M.D., was injured by a fractious horse recently in Taylorville.

Dr. Nelson K. McCormick, physician at the Soldiers' Orphan Home, Normal, has resigned.

Robert D. Bradley, M.D., Peoria, Ill., has resigned as president of the Pension Board and will move to California.

Thomas Lanigan, M.D., of Lincoln, has been appointed county physician of Logan County at a salary of \$500 a year.

August Arp, M.D., Moline, who fractured his leg three weeks ago, is reported to be progressing favorably toward recovery.

Dr. Rosalie M. Ladova, Chicago, has recovered from injuries received at Winona Lake, Ind., in July last, and has resumed practice.

William D. Humphery, M.D., Virginia, has been appointed physician of Virginia, Princeton and Monroe precincts at a salary of \$250.00 per year.

Samuel C. Plummer, M.D., Chicago, Chief Surgeon of the Rock Island System, was presented with a diamond scarf pin by the surgeons of the road.

Henry B. Carriel, M.D., superintendent of the Illinois Central Hospital for the Insane, Jacksonville, was operated on for appendicitis December 3.

Dr. Darwin Kirby, who has been practicing for the last six years with his father, Dr. W. H. Kirby, at Chestnut, Ill., has gone to Chicago to begin his service of eighteen months as interne in the Cook County Hospital.

Dr. C. R. Spicer, of Springfield, has been elected Medical Director of the Yeoman of America, a fraternal insurance order, and will remove to Aurora, the seat of the head officers of that order, and assume the duties of his post.

NEWS ITEMS.

The Cribside Society of Chicago will build a hospital at 481 Orchard street to cost \$30,000.

A benefit performance for the Chicago Emergency Hospital was given at the Illinois Theater December 5.

The Peoria Medical Library Association has been incorporated by Drs. Edgar E. Gelder, J. P. Duane and Elliott C. Du Mars.

Dr. Frank W. Wood, of Carlinville, has prepared himself to make autogenous vaccines and treat suitable cases with bacterial emulsions.

A special examination for internes for the Chicago Lying-in Hospital was held December 26 at 302 Maxwell street. The service will begin Jan. 1, 1908.

Professor E. B. Trener, of Pontiac, a "Rubber," was prosecuted in the Circuit Court of Livingston County at its last session and was fined \$200.00 for practicing medicine without a license.

Mrs. Johnson White, Chicago, who conducts a so-called maternity hospital on the South Side, is said to have pleaded guilty to practicing medicine without a state license and to have been fined \$200 and costs.

By the will of the late Col. Stephen L. Littler, the bulk of his estate is eventually to become available for the foundation and maintenance of a new hospital in Springfield. The estate is valued at nearly \$1,000,000.

The annual meeting and banquet of the Alumni Association of Cook County Hospital Internes was held November 26. Dr. Samuel C. Plummer was elected president, and Dr. Frederick A. Besley secretary and treasurer.

After suffering from diphtheria for a week, being treated by Eddysts, a woman of LaGrange died November 28. The disease was not recognized as diphtheria until a few hours before death, when a physician was called.

The Chicago Postoffice Department has issued fraud orders against two Chicago medical institutions located at 152 Lake street and Lasalle street and known as the Boston Medical Institution and the Belleville Medical Institution.

James Lindgren, physical director and fencing master for the new Illinois Athletic Club, Chicago, charged with practicing medicine without a state license, is reported to have been found guilty, December 12, and fined \$100 and costs.

"Beverly Farm Home and School for Nervous and Backward Children," at Godfrey, Ill., Dr. W. H. C. Smith, superintendent, has recently completed a new and adequate water supply for all purposes and also added a Nelson septic sewer basin to the equipment.

Alleging that he had lost his right eye because of the lack of attention on the part of Dr. George Starkey, John Craft, a laboring man of Waynesville, recently brought suit in the Circuit Court at Clinton for \$5,000.00. After hearing the evidence of the plaintiff, the jury was instructed to find the issues for the defendant.

Mrs. Lucy Hagenow, of Chicago, nearly 60 years of age, was found guilty, November 30, of an illegal operation, causing the death of Mrs. Anna Horavich, and sentenced to imprisonment for twenty years in the state penitentiary. Her conviction is due to the activity of the Committee on Criminal Abortion of the Chicago Medical Society.

The trustees of the Chicago Polyclinic have announced that the Henrotin Memorial Hospital is now open for the reception of patients. The building, constructed of reinforced concrete and absolutely fire-

proof, is provided with all the sanitary features essential to a modern high grade hospital. It contains private rooms only, sixty-five in number, most of them with private bath attached.

The sixty-fifth convocation of the University of Chicago was held in the Leon Mandel Assembly Hall, Fifty-seventh street and Lexington avenue, Tuesday afternoon, Dec. 17, 1907, at 3 o'clock. The address was delivered by William Henry Welch, M.D., LL.B., professor of pathology in John Hopkins University and president of the American Association for the Advancement of Science. Subject: "Medicine and the University."

The Springfield Graduate Nurses' Association was organized at the home of Mrs. Edgar Clark, North Grand avenue. Miss Nellie Stevenson, a graduate nurse of Chicago Hospital, was hostess, and an election of officers was held, which resulted as follows: President, Miss Nellie Stevenson; secretary, Miss Mary Wallace; treasurer, Miss Mathews. The association will meet the last Tuesday of each month, and for the present will be purely a social organization. The first place of meeting has not been decided upon.

The physicians of Peoria inaugurated a movement to establish a medical library in that city. It is their hope to place within the reach of the physicians in compact form books appertaining to medical subjects and all the leading medical periodicals published in this country and abroad. These to be bound and an index record kept of each article and make them of important value. It is expected to fit up a room and employ a girl to take care of it and keep the index record up to date. Such a movement is to be highly commended and to be patterned after by other cities and towns.

MEDICAL SOCIETY NOTES.

The Morgan County Medical Society entertained fifty members and guests at a dinner at the Dunlap House November 20.

Rock Island County Medical Society held its regular meeting and dinner at the Horms Hotel, Rock Island, Ill., Dec. 9, 1907.

The Southern Illinois Medical Society held a two days' session at McLeansboro November 8 and 9. The meeting was very well attended and many interesting addresses and papers were given by members and invited guests.

Dr. Howard T. Ricketts delivered a public lecture in the Public Library Building Saturday evening, Dec. 7, 1907, under the auspices of the Chicago Medical Society. Subject, "The Method by Which Insects Carry Disease."

Dr. Sanger Brown delivered a lecture in the Chicago Public Library Building Saturday evening, December 1, under the auspices of the Chicago Medical Society, on the subject, "The Importance of Proper Ventilation in the Dwelling."

Dr. Willis O. Nance delivered a public lecture in the Public Library Building Saturday evening, Dec. 7, 1907, under the auspices of the Chicago Medical Society. Subject, "The Use and Abuse of the Eyes; Why So Many of Us Are Wearing Glasses."

The Livingston County Medical Society met November 17 at Forest, Ill. The program consisted of several papers and addresses, followed by a banquet. It is interesting to note that the meetings of county societies are affording more and better opportunities for acquaintance among the local profession and the spread of medical knowledge which comes from contact with other medical men.

At the annual meeting of the North Central Illinois Medical Association held at Sterling, December 2, the following officers were elected: President, Dr. Edward S. Murphy, Dixon; vice-president, Dr. J. P. Plum, Plainfield; secretary and treasurer, Dr. George A. Dicus, Streator; and censors, Drs. John C. White, Scatonville; William O. Ensign, Rutland; John F. Dieus, Streator; Arthur H. Harms, Sterling.

The Will County Society held its annual election of officers December 10, with the following result: President, Dr. M. W. Cushing; vice-president, Dr. W. O. McBride; secretary and treasurer, Marion K. Bowles; delegate to State Society, Dr. Watson H. Curtis, Wilmington; censor, Dr. F. W. Rulien; member of the Medicolegal Committee, Dr. Roy B. Leach; member of the State Legislative Committee, Marion K. Bowles.

The Physicians' Club of Streeter gave a banquet, on November 5, at the Plumb House. About thirty persons were present. Dr. George W. Bronson introduced the following speakers: Dr. R. Schurtz talked about automobiles. Dr. Lester discussed what Mark Twain said about Christian Science, and Dr. Conley told his opinion of banquets. Music and general discussion followed, and the occasion was marked by the usual general good time which these banquets afford.

Fifty members of the Will County Medical Association, with their guests, banqueted, November 12, at the Commercial Club at Joliet, Ill. After the dinner there were three scientific papers presented by guests from out of town. Dr. William A. Baum, President of the Illinois State Medical Society, sent greetings to the effect that the state organization is in a healthy and progressive condition. The evening was a most enjoyable one and another example of the great benefit to be derived for the physicians by social as well as scientific meetings.

The Fox River Valley Medical Association held its eighty-fifth semi-annual meeting Tuesday, November 12, at Aurora, Ill. The meeting was called to order by the President, A. A. Fitz of Batavia. After the usual order of business the following officers were elected: President, Dr. J. M. MacDonald, Aurora; vice-president, Dr. E. H. Abbott, Elgin; secretary and treasurer, Dr. George F. Allen, Aurora; member Executive Committee, Dr. H. E. Brennecke, Aurora; member Program Committee, Dr. J. W. Dryer, Aurora; member Board of Censors, Dr. R. G. Scott, Geneva; member Necrology Committee, Dr. C. H. Franz, Aurora; delegate to meeting of State Society, Dr. W. C. Bridge, Elgin; alternate,

Dr. J. W. MacDonald. A very interesting and scientific program was given, and the banquet was served by the "Ladies' Guild."

The Bureau County Medical Society held its semi-annual meeting and dinner, November 20, at Princeton. A number of out-of-town members and guests were present. A very interesting and instructive program was rendered, and the following officers were elected for the coming year: President, A. S. Rummell, Depue; first vice-president, J. F. Taylor, Buda; second vice-president, C. F. Horner, Tiskilwa; secretary and treasurer, O. J. Flint, Princeton; committees: Program, M. H. Blackburn, Princeton, Clyde Horner, Tiskilwa, O. J. Flint, Princeton; Publication, A. E. Owens, Princeton, T. C. Robinson, Wyandot, M. N. Gernsey, Dover; Necrology, A. C. Palmer, Princeton, W. C. Griswold, Princeton, J. F. Taylor, Buda; Board of Censors, A. S. Rummell, Depue, Frank Lewis, Depue; B. F. Landis, Tiskilwa; Arrangement, H. Owens, Princeton, C. C. Barrett, Princeton, J. H. Franklin, Spring Valley; delegate to State Society, C. F. Horner, Tiskilwa; alternate, O. J. Flint, Princeton.

Dr. Theobald Smith, professor of comparative pathology in Harvard Medical School, interested the Chicago Medical Society Wednesday evening, December 18, on the subject, "Some Neglected Facts in the Biology of the Tetanus Bacillus; Their Bearing on the Safety of the So-Called Biological Products." Dr. Smith is among the very first of the modern investigators in infectious diseases. Perhaps he is best known as the discoverer of the rôle played by the tick in the spread of Texas fever in cattle. Texas fever is caused by a protozoon blood parasite similar to the organism of malaria, and Professor Smith's discovery paved the way for the demonstrations by Ross and others of the rôle of mosquitoes in malaria and of Reed and his associates in yellow fever. He has also made discoveries of fundamental importance upon the relationship of the bacilli of human bovine tuberculosis, the pneumonia of hypersusceptibility, etc. Professor Smith comes to Chicago to receive the honorary degree of LL.B. at the University of Chicago.

The annual meeting of the North Central Illinois Medical Association occurred in Sterling December 3-4. The following was the program of the meeting: Necrological report: B. L. Bonar, M.D., Streator, by Dr. L. F. Dicus; A. C. Philips, M.D., Apple River, by Frank Anthony, Sterling. "A Few Salient Points in the Early Diagnosis of Pulmonary Tuberculosis," E. H. Butterfield, M.D., Ottawa. Discussion opened by A. B. Middleton, M.D., Pontiac. "Deep Alcoholic Injections in Trifacial Neuralgia," with a clinical report, D'Orsay Hecht, M.D., Chicago. General discussion. "Treatment of Appendicitis," T. W. Curry, M.D., Streator. Discussion opened by C. C. Hunt, M.D., Dixon, Ill. "The Physician from a Business Standpoint," S. O. Hendrick, M.D., Henry. Discussion opened by Wm. O. Ensign, M.D., Rutland. "Acute Frontal Sinusitis," with a report of cases, F. A. Guthrie, M.D., LaSalle. Discussion opened by H. S. Lester, M.D. Streator. "Infections of the Nasal Accessory Sinuses; Their Diagnosis and Treatment. Description of

Newer Methods of Bronchoscopy," George Paul Marquis, M.D., Chicago, General Discussion. "Non-tubercular Coxitis," Homer A. Millard, M.D., Minonk. Discussion opened by D. W. Jump, M.D., Plainfield. Volunteer papers and discussions. Banquet and evening program: On Tuesday evening a reception and banquet was given the members and invited guests at the Parish House at 6 p. m. by the Whiteside County Medical Society. The program was as follows: 8:15, President's address, "The Trend in Modern Medicine," E. P. Cook, M.D., Mendota; general address, A. E. Halsted, M.D., Chicago. The business meeting of the association will be held Wednesday.

A joint meeting of the Physicians' Club and the Lawyers' Club of Chicago was held at the Great Northern Hotel Friday evening, Dec. 13, 1907, at 6:30 o'clock, at which the subject, "Sense and Sentiment in the Treatment of the Criminal and Other Social Parasites," was discussed. The chairman of the evening was Judge William H. McSurley.

1. The Biological Aspect, Including Race Suicide for Social Parasites.¹
Dr. William T. Belfield.

2. The Indiana Movement.²
J. N. Hurty, Secretary Indiana State Board of Health.

3. The Custodian's View and Experience.
Mr. John L. Whitman, Superintendent Bridewell.

4. The Youthful Criminal.
Judge John R. Newcomer, Municipal Court.

5. The Judicial Aspect. Judge Albert C. Barnes, Superior Court.

6. Humanitarian View. Prof. Graham Taylor, Chicago Commons.

It will be noted that the subject chosen for the evening discussion was not only one of great interest, but of great moment, one upon which the doctors and lawyers can get together in one fold and derive both pleasure and profit through the association. It is needless to say that it is highly gratifying to the Physicians' Club that it was able to bring about this joint meeting, and hope is expressed that the future holds more of them in store. The realization of the baneful influence exerted upon every element of society through the maudlin sentimentality so constantly displayed toward even the most vicious of criminals brought this subject prominently into the foreground, and the strong program presented the various factors in its causation and rational line of procedure toward its amelioration and cure. The meeting was the largest and most successful which the Physicians' Club has ever known, the attendance amounting to something more than 170, and the spirit and enthusiasm manifested were such as to command attention and rivaled that displayed in the more enthusiastic gatherings to promote any kind of progressive movement. The speakers were given a royal welcome, and each speaker held the attention of his audience during the entire discourse.

1. See abstract, page 69.

2. See abstract, page 70.

STATE BOARDS AND PUBLIC HEALTH.

Three cases of diphtheria are reported from Canton.

It is now reported that Peoria has no smallpox cases.

Scarlet fever is reported to be spreading rapidly in Waukegan.

Pneumonia is reported to be very prevalent in the region of Kane.

The Lincoln Schoolhouse, Bloomington, has been closed on account of diphtheria.

An epidemic of scarlet fever, measles and diphtheria has been reported at Waukegan.

An epidemic of diphtheria has caused the closure of three country schools northwest of Mattoon.

Chillicothe is reported to have an epidemic of scarlet fever, from which several deaths have resulted.

The children's hospital connected with Cook County Hospital is closed on account of an epidemic of varicella.

An epidemic of scarlet fever has been reported at Lacon, Ill. This town has had a similar epidemic two winters previous.

The health department of Rockford reports that diphtheria has been very prevalent for several weeks, but is now well under control.

The Chicago Tuberculosis Institute has opened six special free dispensaries for the treatment of consumption and the spread of information regarding its prevention.

Dr. Frank C. J. Brooks, Rockford, charged by the health department with failing to report a case of diphtheria and thereby violating the health ordinance, is reported to have been fined \$10 and costs November 23.

Smallpox cases have been reported in the following towns: Springfield, Elizabeth (in the latter town nearly all cases have recovered), Bishop, Griggsville, Robinson, Oblong, Jacksonville, Pekin, Deatur, Hillsdale.

The Board of Commissioners of Cook County, at its last meeting, decided to urge the city of Chicago to take charge of its alcoholic and contagious patients. It also recommends the erection and maintenance of a home for convalescents.

A board of commissioned medical officers will convene in Washington, January 20, for the purpose of examining conditions for assistant surgeon in the Public Health and Marine-Hospital Service. Further information may be had by addressing the Surgeon General at Washington, D. C.

Typhoid is prevalent at various towns throughout the state. An epidemic has been reported at Mattoon, necessitating the closing of

schools. Cases have also been reported at Rockford and Canton. A general epidemic is reported in Lawrence County and stringent efforts are being made to limit the spread of the disease, even the daily press advising the use of antitoxin.

The State Board of Charities is making plans for the merging of the management of the charitable institutions of the state. By this means it is hoped to place the institutions on a plan of management which will result in the greatest good to the wards of the state and at the same time will reduce in great measure the expense of maintenance.

During November 2,160 deaths were reported in Chicago, 109 fewer than the preceding month and 226 fewer than for the corresponding month of 1906, the respective annual mortalities per 1,000 being 12.47, 12.67 and 14.17. Pneumonia caused 322 deaths; consumption, 238; heart disease, 201; violence (including suicide), 161; nephritis, 155; acute intestinal diseases, 119; cancer, 102; diphtheria, 47; scarlet fever, 46; influenza, 10; and measles and whooping cough, each 6.

The Surgeon General of the Public Health and Marine-Hospital Service, Washington, announces that on Jan. 20, 1908, a board of officers connected with that bureau will be convened for the purpose of examining candidates for admission to the grade of assistant surgeon in that Service. Candidates must be between 22 and 30 years of age, and will receive on admission a salary of \$1,600, with furnished quarters for themselves and family. Full particulars can be obtained by addressing the Surgeon General at Washington, D. C.

Ninety-five cases of smallpox were reported to the City Board of Health in Springfield during the month of November, a larger number than has occurred in the city for twenty-five years. This epidemic is said to have been due to an effort on the part of one of the parochial schools to collect waste paper in sufficient amount to make a carload, for which the school was to receive \$100. The children are said to have collected this paper from all sorts of places, in some instances taking wall paper from old houses where it is presumed that smallpox had prevailed. The disease has existed in a very mild type and up to December 10 no deaths had occurred during the epidemic.

At a meeting at which twenty health officers from Chicago and surrounding towns were present, held December 7, the Chicago Suburban Health League was organized as a permanent society to safeguard the health of Chicago and surrounding territory. The territory of the league extends north to Kenosha, Wis., west to Aurora and Elgin, and south to Whiting, Ind., and Chicago Heights. The following officers were elected: Dr. William R. Parks, Evanston, president; Dr. Albert F. Storke, Oak Park, vice-president; Dr. Heman Spalding, Chicago, secretary and treasurer; and Drs. William A. Evans, Chicago; S. Gordon MacCracken, Winnetka, Aaron J. Lauer, Whiting, Ind.; Clarence W. Geyer, Aurora, and Albert F. Storke, Oak Park, executive committee.

The Illinois Legislature has adopted a new law for the regulation of the sale of cocaine. It provides that it shall be unlawful for any drug-

gist or other person to retail, sell or give away cocain, alpha or beta eucain, or any compound or derivative of any of them, or any preparation or compound containing any of them, except on the written prescription of a duly registered physician, which prescription must contain the name and address of the person for whom it is prescribed. The druggist filling the prescription is instructed to place the date on it and to retain the original on file, to fill it but once and to give no copy to any person. The wholesaling of these substances is not interfered with, provided the wholesale dealer affixes a label to the package stating the name and quality of the sale and marked "Poison," with the name and place of business of the seller. Wholesale dealers are required to keep a record of all sales showing the date, quantity and form and the name and address of the purchaser. It is also unlawful for any registered physician or any other person to prescribe, sell or offer for sale any cocain or derivative or substance containing cocain to any persons addicted to the habitual use of the drug. Violation of the provisions of the act is constituted a misdemeanor punishable by fine or imprisonment or both. If the offender is a registered physician, dentist or pharmacist, conviction for such an offense constitutes a revocation of his license.

During the past few weeks the laboratory of the Department of Health of Chicago has been making experiments seeking to devise some simple method for the home pasteurization of milk. Among the various methods tried the following is recommended as the simplest and most effective. It is, in effect, that originally proposed by the assistant commissioner in his circular on the "Hot Weather Care of Infants and Young Children: 1895." A quart bottle of milk, with the stopper in it just as it comes from the milkman, is set upon a saucer or other small plate in a two-quart granite boiler. The boiler is filled with cold water up to within an inch or two from the top of the milk bottle. It is then placed over the fire and allowed to remain until the water around the bottle begins to boil. It is then at once taken off the fire and set aside to cool. The water must not be allowed to boil for any length of time and the milk must be cooled in the water, the entire process consuming about forty or forty-five minutes. This treatment will destroy practically all the bacteria present, especially the pathogenic ones, such as typhoid bacilli, which have been carefully studied and have been destroyed by this method. Such a bottle of cooked milk, if kept in the ice box, will remain sweet for over a week. If careful attention is paid to the above directions the milk will have only a very slight, if any, suggestion of "cooked" taste, while its nutritive and digestible qualities will not be impaired.

The following notice of the International Congress on Tuberculosis appeared in the October number of the *Bulletin* of the Illinois State Board of Health: "The National Association for the Study and Prevention of Tuberculosis has created a special committee on the International Congress of Tuberculosis. The committee on the congress has enlisted the interest of the federal government. Seven of the govern-

ment departments have signified their intention to participate in the international congress. These are the department of State, of the Treasury, of War, of the Navy, of the Interior, of Agriculture, and Commerce and labor. The governors of the states composing the United States have all been notified and most of them have taken official action in favor of the International Congress on Tuberculosis. The organized agencies in the United States, official and voluntary, have been advised concerning the International Congress on Tuberculosis and are making active preparations for that important event. Governor Deneen has appointed several delegates to the meeting of the congress, who have also been appointed members of the Illinois committee to prepare for the congress. Dr. George W. Webster, president of the State Board of Health, has been elected chairman of this committee. Governor Deneen is an ex-officio member of this committee. The session work of the congress will be done in the week of Sept. 28 to Oct. 3, 1908. During that week there will be two general meetings. During the three weeks from September 21 to October 12 a tuberculosis exhibition will be opened and a course of special lectures by distinguished men will be in progress. Clinics and demonstrations of unusual interest will be arranged for the whole period.

A "health clearing house" for the city of Chicago, all its suburbs, towns and cities within the radius of fifty miles of the city is the practical outcome of a conference of the health officers of these communities, held during the past week on a call issued by the commissioners of health of Chicago. In outlining the purpose of the conference it was said that need of a practical corporation of all health officers of surrounding towns with Chicago is daily in evidence. The lesson of recent epidemics of scarlet fever, diphtheria and typhoid is unmistakable. The number of persons who daily visit Chicago from outlying towns and cities make it possible for disease contracted in one section to be carried miles away to another district, and in the same way contagion in Chicago may be taken to a far-off suburb. It is evident that there should be no political boundary lines in sanitary affairs. There is a common cause, and united action must obtain if the duties of an important office are to be discharged as fully and effectively as possible. As one of the important features of the corporation it was suggested that there be established what may be properly termed a "health clearing house" for this district. Daily reports of contagious diseases and other matters pertaining to the public health can then be made to one central point, and from there a statement of the salient features of these reports will be immediately forwarded to the associated boards of health. The suggestion was also offered that the Chicago Department of Health shall devote a page of its weekly bulletin to matters of special interest to surrounding towns, and that the laboratory facilities shall be made available to all departments of health in the association, each to bear the expense of its individual cases. It was further pointed out that through organization of this kind considerable economy in the purchase of supplies would result to the smaller towns.

The following items from the *Bulletin* of the Department of Health in the City of Chicago are of interest to the medical profession: "November, 1907, passes into record as one of the most healthful months Chicago has ever known, thus fulfilling the prediction made in a recent issue of the *Bulletin*. Only once in the last fifty years has the November death rate been lower, the lowest record being in 1904, a year of phenomenal healthfulness. A total of 2,160 deaths were reported to the Bureau of Vital Statistics during the month, this being 109 fewer than the preceding month and 236 fewer than the corresponding month of last year. In the meteorologic records of November is to be found an explanation of the low mortality of the month. The reports of the weather bureau show that the average temperature of the month was considerably in excess of the mean of the past thirty years, and that the percentage of possible sunshine was much greater than the average. Thus the weather conditions were such as favor outdoor life and the free ventilation of living quarters, two factors that are far-reaching in their effects upon health. The ideal weather conditions that have prevailed during the month have delayed the advent of the pneumonia season. The city hospitals contain far fewer than the usual number of pneumonia patients, and the mortality from this disease and from bronchitis is considerably lower than is customary at this time of year. The attention of the department has recently been directed to the ventilation of street cars and, after due consideration of the conditions, the commissioner has decided to recommend to the traction companies that an open trailer be attached to each train for the accommodation of people that recognize that danger lurks in the air of closed, unventilated cars, and who realize the healthful effects of the open air."

The October and November *Bulletin* of the State Board of Health contains the following clinical reports of antitoxin administration: "Two hundred and eighty-six clinical reports on the administration of the antitoxin furnished by the State Board of Health have been received by the board from public-spirited physicians throughout the state during the period from Oct. 12 to Nov. 12, 1907. There are some points of more than passing interest in connection with these reports. Of the 186 injections given, 134 were for immunizing purposes. The remaining 52 constituted curative treatments in persons suffering from diphtheria. Complete recovery resulted in 147 of the 152 cases, no sequelæ being noted in any instance. There were five deaths, a death rate of 3.29 per cent. of the total number having the disease. But it might be truthfully said that there was practically no death rate in those cases in which antitoxin was administered early, for to none of the patients in whom the disease terminated fatally was antitoxin given early in the course of the disease. In one case the antitoxin was given on the tenth day, in another in the last stages, and in still another on the fifth day. In two instances this curative agent was administered respectively on second and third days, but there is no evidence that over 3,000 units were used. These facts will serve to further accentuate the urgency of the early administration of antitoxin and the frequent repe-

tition of the dose, provided favorable results do not follow the first injection. As an illustration of the aseptic technic employed in the injections, and the degree of refinement of the serum used, we will say that in only two of the 286 individuals in whom injections were given were there any unusual or peculiar results. These two patients had a slight erythematous eruption at the seat of injections, but this passed away quickly without further symptoms."

NEW INCORPORATIONS.

Olney Sanitarium, Olney; capital increased from \$25,000 to \$40,000.
 Peoria Medical Library Association, Peoria; incorporators, E. E. Gelder, E. E. DuMars, J. F. Duane.

Park Avenue Hospital and Training School for Nurses, Chicago; capital increased from \$5,000 to \$40,000.

American Hospital of Medicine, Surgery and Osteopathy, Chicago; incorporators, A. F. Heimlich, D. Littlejohn, J. B. Littlejohn.

Anti-Compulsory Vaccination of Chicago, to oppose vaccination; incorporators, J. H. Green, M.D., Kate Reid and O. H. Mann, M.D.

A. Adolphus Span, dermatologist, Chicago; capital, \$10,000; medical; incorporators, Ben F. Brady, David G. Einstein, Thomas J. Johnson.

CHANGE OF LOCATION.

E. A. Elden has removed from Moline to Hayes, S. D.

Dr. B. Taylor, of Westville, has removed to Harrisburg, Ill.

Dr. Edwin W. Crum has removed from Glasgow to Palmyra.

Dr. W. H. O'Malley has removed from Kinsman to Kewanee.

David Littlejohn, M. D., has removed from Pontiac to Chicago.

Dr. L. D. McClure has removed from Adrain, Ill., to Nara Visa, N. Mex.

Dr. Watson, of Dixon, Mo., has located in Litchfield for the practice of his profession.

Dr. J. A. McGoe, of Thirty-fifth and State streets, Chicago, has removed to Kinsman.

Dr. Jacob Franks has changed his residence from 17 Lincoln Ave., to 49 Pine Grove Ave., Chicago.

A. L. Casbern, M.D., of Bentley, has bought the practice of Dr. L. D. McClure and removed from Bentley to Adrain.

MARRIAGES.

EMIL ARTHUR RACH, M.D., to Miss Ella Boyle, both of Chicago, November 6.

DWIGHT C. ORCUTT, M.D., to Miss Grace Leach, both of Chicago, December 3.

CARL BRADEN DAVIS, M.D., to Miss Elsie Booth, both of Chicago, December 10.

J. J. PLEAK, M.D., of Hillsboro, and Miss Freda Liens, of Augustus, Ky., Dec. 4, 1907.

J. HOWARD P. O'NEIL, M.D., to Miss Josephine Mary Carson, both of Chicago, November 6.

LEWIS A. HARRIS, M.D., St. Charles, Idaho, to Miss Fannie T. Levy, of Chicago, November 25.

PETER BASSOE, M.D., Chicago, to Miss Miriam Gardner, of Pasadena, Cal., November 30.

FRANK M. HORSTMANN, M.D., Rice Lake, Wis., to Miss Mabel Hepburn, Chicago, October 9.

JAMES GRAY CARR, M.D., Chicago, to Miss Esther Margaret Foxcraft, of Cambridge, Mass.

EDWARD BOWIE, M.D., of Jacksonville, and Mrs. Anna Conover Linkins, of Bluffs, November 24.

JOHN K. McQUARRIE, M.D., Chicago, to Miss Fannie Maxwell, of Millersburg, Ohio, Dec. 4, 1907.

FRED H. BAPMAN, M.D., Bloomington, Ind., to Miss Pansy A. Runner, of De Kalb, Ill., December 9.

JAMES M. KIRK, M.D., Pasadena, Cal., to Miss Anna McKay, of La Salle, Ill., at Milwaukee, Wis., recently.

WILLIAM A. EVANS, M.D., Chicago, to Miss Ida May Wildberger, of Memphis, Tenn., at Chicago, November 30.

GEORGE C. STEMEN, M.D., Denver, Colo., to Mrs. Madge Hays Beardsley, of Decatur, Ill., at St. Louis, November 6.

At a meeting of the Chicago members of the class of 1893, College of Physicians and Surgeons, Chicago, held Nov. 26, 1907, a committee presented the following tribute to the memory of Samuel J. Boyd. A copy of this testimonial was ordered sent to the widow of Dr. Boyd, to THE ILLINOIS MEDICAL JOURNAL and to the *Plexus*:

IN MEMORIAM.

SAMUEL J. BOYD, M.D., BORN 1861—DIED 1907.

Tribute of the Chicago members of the class of 1893, College of Physicians and Surgeons, Chicago.

By the death of Samuel J. Boyd, M.D., the class of 1893, College of Physicians and Surgeons, Chicago, mourns the loss of one of its most active and efficient members. His affable nature and courteous dignity, his entertaining and instructive conversation, won him the highest esteem from the members of the class and the love and respect from the people he met from all walks of life. He has added luster to society and to the medical profession of which he was a member by contributing his

indefatigable industry, his integrity, his patriotism, his public spirit and rare abilities.

With his professional associates he was able and earnest without pretention, always faithful and dependable, preserving their utmost confidence in him and gaining him the respect and admiration of all. With the suffering he was sympathetic, with the needy charitable. A more adequate comprehension of his character and whole life can be gained by the sentiment of Abraham Lincoln, "Charity for all and malice toward none." [Signed]

WELLINGTON T. STEWART, M.D.

EMMET L. SMITH, M.D.

JOSEPH L. ABT, M.D.

ANDREW M. HARVEY, M.D.

DEATHS.

REDFORD W. FISK, M.D., Eclectic Medical Institute, Cincinnati, 1878, died at his home in Quincy, Ill., July 26, aged 60.

GEORGE CALLOWAY, M.D., Medical College of Ohio, Cincinnati, 1873, died at his home in Tuscola, Ill., in October last, from disseminated sclerosis, aged 63.

EMORY BALLOU, M.D., University of St. Charles, Ill., Medical Department, 1845, died at his home in Nunda, Ill., November 27, after a prolonged illness, aged 83.

JOHN H. PENNER, M.D., Louisville, 1854-56, died at his home in Lawrenceville, Ill., November 2, from disease of the lungs, after an illness of three months, aged 75.

FREDERICK H. STEVENS, M.D., Vermont Academy of Medicine, Castleton Medical College, 1851, of Caldwell, N. Y., died at the home of his daughter in Chicago, December 1, aged 82.

THOMAS HAERING, M.D., Bloomington, died Dec. 20, 1907. Dr. Haering was a native of Bavaria, born Feb. 6, 1833, and came to Bloomington in 1867, where he has practiced ever since.

F. MARION CRANE, M.D., Pittsfield, aged 45, died of heart disease. Dr. Crane was a member of the Pike County Medical Society and Illinois State Medical Society and a prominent Mason.

EDWARD C. ELLET, M.D., Jefferson Medical College, Philadelphia. 1849, for more than fifty years a practitioner of Bunker Hill, Ill., died at the home of his daughter in Alton, Ill., November 4, aged 88.

LUCIUS W. BLAKESLEY, M.D., Eclectic Medical Institute, Cincinnati. 1844, for forty-eight years a resident of Aurora, Ill., died at his home in that place from carcinoma of the liver, October 29, after an illness of three months, aged 86.

SAMUEL J. BOYD, M.D., College of Physicians and Surgeons of Chicago, 1893, a member of the American Medical Association, died at his home in Chicago, November 20, from myocarditis, after an illness of about four years, aged 46.

GEORGE H. CARDER, M.D., Chicago Homeopathic Medical College, 1882, for twenty years a practitioner of Auburn Park, Chicago, and later at Pasadena, Cal., died suddenly at the bedside of a patient of that city, November 4, from heart disease, aged 57.

JAMES LEDLIE ADAMS, M.D., Chicago, Rush Medical College, Chicago, 1902, member of the Illinois State and Cook County Medical Societies, died at the Baptist Hospital, Chicago, December 3, from endocarditis, after an illness of four weeks, aged 29.

FREDERICK WHITCOMB CURRIER, M.D., of Springfield, aged 39 years. Dr. Currier was born in Springfield and graduated at the Beaumont Hospital Medical College in St. Louis in 1894, since which time he has been engaged in the practice of medicine in his native city.

JULIUS W. OSWALD, M.D., Rush Medical College, 1887, a member of the American Medical Association, chief surgeon on the staff of Alexian Brothers Hospital, Chicago, and surgeon to Maurice Porter Hospital, died at his home in Chicago, December 15, from paralysis, after an illness of four years, aged 44.

JOSEPH HALLER, M.D., Northwestern University Medical School, Chicago, 1862, of Lanark, Ill., contract surgeon in the army during the Civil War, a member of the Illinois State and Carroll County Medical Societies, died at the Rockford Hospital, December 11, two weeks after an operation for subphrenic abscess, aged 71.

J. C. O'CONNOR, M.D., of Buffalo, Sangamon County, died Dec. 12, 1907. He had practiced in Buffalo for a great many years, and was a graduate of Rush Medical College in the year 1878. His wife and one daughter survive him. The burial by the Masonic order took place Sunday, December 15, a large number of members and professional friends attending.

WILLIAM LINCOLN DOWNING, M.D., Rush Medical College, Chicago, 1886. A member of the American Medical Association, Tri-State Medical Society of Iowa, Illinois and Missouri, and Des Moines Valley Medical Association; local surgeon of the Chicago, Burlington & Kansas City and Wabash Railways at Moulton, Iowa. Died at a hospital at Chicago, November 2, after an illness of six weeks, aged 45.

J. HOMER COULTER, M.D., Medical College of Ohio, Medical Department of the University of Cincinnati, 1885; formerly a specialist on diseases of the ear, nose and throat of Chicago; a member of many medical societies and professor in Harvey Medical College and Chicago Clinical School, died in the Illinois Northern Hospital for the Insane, Elgin, July 24, from general paralysis of the insane, aged 46.

WESLEY W. ESSICK, M.D., Medical Department of the University of Nashville, Tenn., 1882; a member of the Illinois State and Jackson County Medical Societies; professor of railway surgery in the College of Physicians and Surgeons, St. Louis; local surgeon of the Mobile & Ohio Railway, and a member of the Board of Health in Murphysboro, Ill., was run over by a switch engine and almost instantly killed at Murphysboro, November 15, aged 53.

JOHN ELLSWORTH COVEY, M.D., of Bloomington, died in that city, December 13, of cancer of the stomach. Dr. Covey was born near Le Roy, Oct. 16, 1861, and was a graduate of the Wesleyan University of Bloomington and of Rush Medical College. He first practiced in Lexington, but later removed to Bloomington, where he soon became a prominent member of the profession. He was a member of the Baptist church and superintendent of the Sunday school. His wife and two children survive him.

JAMES H. COLLINS, M.D., ambulance surgeon at the Fifteenth Precinct Ambulance Station. Dr. Collins was a medical graduate of the University of Toronto in 1889 and came to Chicago in 1891. In 1894 he was appointed a school inspector on the Board of Education and served in that capacity until 1902. He passed among the first twelve in the civil service examination for ambulance surgeons held last summer and was appointed to the service on July 23. He died on Thursday, Nov. 7, 1907, at St. Bernard's Hospital of lobar pneumonia.

CHAS. J. GRASER, M.D., Springfield, Ill., died of typhoid fever at St. John's Hospital, Nov. 19, 1907. Dr. Graser was born in Springfield in 1872 and, after graduation at the High School and a course in pharmacy, was in the drug business until he entered Northwestern University Medical School in 1900, from which he graduated in 1904, and has practiced in Springfield since that time, being associated with Dr. D. M. Ottis. The Sangamon County Medical Society held a special meeting on the 19th and adopted appropriate resolutions regarding Dr. Graser's death.

THE DEATH OF NICHOLAS SENN.

NICHOLAS SENN, "master surgeon," pathologist, teacher, patriot and loyal friend, died, January 2, at his home in Chicago, from dilatation of the heart, aged 63 years, 2 months and 2 days.

He was born in Buchs, Canton of St. Gall, Switzerland, Oct. 31, 1844, came with his parents to the United States in 1852 and settled at Ashford, Wis. In 1865 he entered Chicago Medical College, and graduated with first honors in 1868. He commenced practice in Ashford. Five years later he moved to Milwaukee. In 1877 he returned to Europe, and, after studying at the University of Munich, received a degree in medicine in 1878. He then practiced in Milwaukee until 1893, when he took up his permanent residence in Chicago.

Dr. Senn was a member of the staff of the Milwaukee Hospital, and later surgeon-in-chief to the St. Joseph's Hospital and Presbyterian Hospital, Chicago.

Dr. Senn was a member of many scientific societies. In 1896 he delivered the oration on surgery, and in 1897 was president of the American Medical Association. He founded the Association of Military Surgeons of the United States in 1891 and was its president for two years. He was also the founder of the Association of Military Surgeons of the State of Illinois in 1893, and has been its president during the entire existence of the organization.

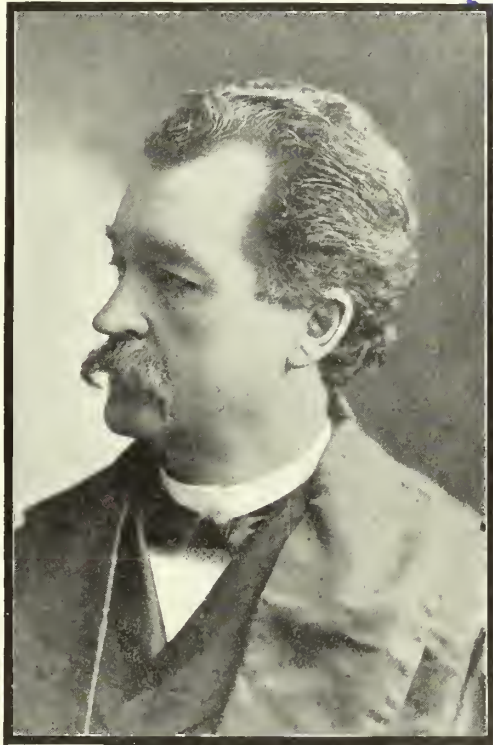
His career as a medical teacher began in 1884, when he was elected

professor of principles and practice of surgery in the College of Physicians and Surgeons, Chicago. In 1888 he was made professor of principles of surgery and surgical pathology in Rush Medical College, and in 1891 professor of practice of surgery and clinical surgery in the same institution. Later he was appointed professorial lecturer and then professor of military surgery in the University of Chicago. He was also professor of surgery in the Chicago Policlinic. Dr. Senn was a thorough teacher and held the attention of his classes closely by the interest with which he invested the topic on which he was lecturing. His information was universal and perfectly classified, he was never at a loss for a word, and could always supply the names of authorities, dates and particulars, and this off-hand, without reference to notes. His style of delivery was dramatic and his audiences never tired. The students never stayed away from his clinics and the amphitheater was always filled.

As a surgeon Dr. Senn was probably the best known and most universally esteemed in the United States. His fame was not local, but extended far beyond the confines of America to Europe, Africa, South America and the far East. He was a skilful and always conservative operator and a most eloquent clinical lecturer. In plastic surgery he excelled. To detail the surgical procedures he has devised based on careful

experiment and observation, and to describe his methods of operating would require far more space than could be permitted in this notice. His research work on military surgery, and especially first aid on the battle field and the conservative treatment of gunshot wounds, has attracted the attention and compelled the admiration of the surgeons of the world.

Dr. Senn in 1888 was made surgeon general of Wisconsin and retained this position until he left the State. In 1892 Governor Altgeld commissioned him surgeon general of Illinois, and this position he held through various administrations until his death. On the outbreak of the



NICHOLAS SENN, 1844-1908.

Spanish-American War he at once repaired to the state mobilization camp at Springfield and assumed charge.

He was commissioned lieutenant colonel and chief surgeon, U. S. V., May 13, 1898, and was assigned to duty with the Sixth Army Corps at Chickamauga Park, Georgia. He accompanied the expedition under command of Brig.-Gen. Guy V. Henry, U. S. V., to Santiago, Cuba, and was assigned to duty as chief surgeon of the operating staff with troops in the field. He was on duty with the Army of the Invasion near Santiago until July 14, when he reported for duty on board the U. S. Hospital Ship *Relief*. On August 20 he proceeded to Montauk Point, Long Island, N. Y., and was placed in charge of the surgical work at that place. He resigned September 6 and was honorably discharged September 17.

Dr. Senn was a prolific contributor to the medical literature. Prominent among his writings, which number more than 300 titles, are his text-books on "Experimental Surgery," "Intestinal Surgery," "Surgical Bacteriology," "Principles of Surgery," "Tuberculosis of Bones and Joints," "Genito-urinary Tuberculosis," "Pathology and Surgical Treatment of Tumors," and "Practical Surgery."

In the opinion of his attending physician, Dr. Senn gave a plain history of chronic interstitial myocarditis, running back beyond a period of two years. He did not recognize the plain manifestation of the lesion, but imagined himself even at this time to be a prodigy of physical and mental endurance. The acute manifestations of his illness were precipitated by his tour around South America. Immediately before his arrival on that continent he was disturbed by an acute intestinal derangement, and soon after his arrival he imprudently ascended a great mountain to an altitude of 16,000 feet. The phenomena of acute dilatation of the heart immediately appeared and continued until his death. On his arrival at home he showed an enormously dilated heart with gallop-rhythm, marked pulmonary stasis with edema, extreme dyspnea and great anasarca. The circulatory disturbance was not durably benefited by medicinal treatment. Periods of temporary improvement were interrupted by periods of aggravation. As part of the general vascular stasis connected with the dilatation, a rather acute ascites made its appearance, suggesting the pre-existence of some impediment to the portal circulation. About two weeks before death an acute nephritis was engrafted on the course of a chronic passive congestion of the kidneys, and this was the feature of his illness that precipitated the fatal termination.

Nicholas Senn was truly great; master of his profession; a patriot, always ready to sacrifice his personal interests and comfort for the service of his adopted country; intensely loyal in his friendships; generous to a fault; simple-minded; too honest to harbor suspicions; a man of singularly clean speech, never profane nor vulgar. His greatest glory was in his extraordinary capacity for work, which he held as duty, and that work entirely for the betterment of his fellow men. Of him it may with truth be said that the world is better for his having lived.

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ORIGINAL ARTICLES

THE MODERN TREATMENT OF PULMONARY TUBERCULOSIS; THE IMPORTANCE AND DIFFICULTY OF MAKING AN EARLY DIAGNOSIS.

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Medical Director, Ottawa Tent Colony.

OTTAWA, ILL.

No factor in the treatment of pulmonary tuberculosis is more essential to success than an early diagnosis. This statement is so self-evident that proof is unnecessary, and it would seem almost superfluous to even make the statement were it not for the fact that but comparatively few patients are placed under treatment during the incipient stage. When we speak of the curability of tuberculosis as applied to a large majority of cases it should always be understood that this statement presupposes an early diagnosis. An analysis of the reports of the leading sanatoria in this country reveals the fact that instead of a majority of patients admitted to those institutions being in the incipient stage as is supposed, they are, in nearly every instance, in the minority.

In a state hospital where the law is mandatory that none but incipient cases shall be admitted, the medical director states that in a certain year 965 applications for admission were received. Of these 205 were accepted as incipients on the reports of examiners selected throughout the state with the greatest care, and who were presumably skilled diagnosticians. The superintendent of the institution found that only 101 could be properly designated as early cases. He further states that the average proportion of incipient cases in the hospital at that time was 60 per cent., and only about one-tenth of all the applications supposed to be incipients could properly be included in that class. By a rigid enforcement of the law it was found that not more than one-third of the beds were filled, and this, too, in a charity hospital devoted exclusively to tuberculous patients in a state with an estimate of 50,000 tuberculous patients and a mortality of 14,000 annually.

In another charity institution to which none but incipient cases are supposed to be admitted no classification is made in their report. Although every precaution has been taken to prevent the admission of any except incipient cases, a number of those advanced and far advanced have been practically forced upon the institution. When I asked the medical director why no classification had been made he replied that it might have been regarded as such a reflection upon the official examiners that he thought it wise to depart from the usual custom. He also said that although every precaution was taken to carefully select medical examiners, it was not possible, even in populous centers, to find men who were skilful diagnosticians, or if skilful would not allow their judgment to be overridden by their sympathies in the recommendation of cases for admission. In an institution of world-wide reputation no classification is reported for perhaps the same reason. Another institution where a classification is reported we find out of a total of 156 patients admitted, 24 were incipient, 74 advanced and 58 far advanced. In another, supported by private charity and where they attempt to enforce the rule to admit none but incipient cases, no classification is made in their report, but a careful analysis of their statistics indicates substantially the same conditions as in those where a report has been made. In another, supported by contributions from people all over the United States and where the rule is absolute that none but incipients shall be admitted, the medical director told me confidentially that they were contending with the same difficulty. In another sanatorium, supported by private charity and where it is likewise attempted to enforce this rule, out of a total of 157 patients 24 were incipient, 98 advanced and 35 far advanced. This is an institution not dependent for its support upon contributions of patients. The medical director gave as a reason for not enforcing the rule that if he did many of his beds would be vacant. In a report of one of the oldest and best appointed private institutions in the country, out of 261 cases 45 were incipient, 94 advanced and 122 far advanced. At the Ottawa Tent Colony the conditions are substantially the same, and, while we, too, have attempted to enforce the rule, we have experienced the same difficulties which obtain elsewhere.

I have not felt at liberty to give the names of these institutions from whose statistics I quote for the reason that some part of the information is confidential, and where it is not, the use of their statistics might be regarded as a reflection upon the institutions themselves, especially those regulated by law, or by rules established by boards of directors, which are supposed to be enforced. While some are securing a more favorable class than others, there are none, however strict, who are receiving a class of patients for whom the best results can be obtained. It is safe to say that, notwithstanding the fact that there are only a few sanatoria in the United States and a multitude of tuberculous patients, if the rule was rigidly enforced that none but incipient cases should be admitted almost every institution in the country would have many vacant beds. This condition of affairs is general, and it is only by thus bringing these facts together that we can demonstrate the serious handicap under

which sanatoria officials are doing their work—conditions which must be remedied if we are to prevent the modern treatment of tuberculosis from falling into disrepute.

This extraordinary condition of affairs leads to the inquiry as to why the disease is not recognized during the early stages, and why more patients are not given the opportunity of receiving treatment at the only time when we can truthfully and with a reasonable degree of certainty promise a cure. Is it because the definition of incipient tuberculosis is too severe? Or that refinements of diagnosis are required which only expert skill can supply? The primary reason is probably due to the fact that it is only very recently that it has been demonstrated that tuberculosis is curable. While this fact is generally accepted, the conditions and limitations of the treatment are not generally understood. The tendency of the human mind is always to extremes. At first it was difficult to arouse the people from their apathy which grew out of the hopelessness with which the disease was formerly regarded. In the past the consumptive was abandoned to his fate, or at least only treated in a perfunctory manner with but little hope of success. Because of this attitude of hopelessness but little attempt was made to diagnose the disease in its early stages. Now that the public is coming to understand that tuberculosis is curable they have not yet learned that this is true only within certain limitations and under rather well-defined conditions. Time enough has not yet elapsed to educate either the public or the profession as to how and to what extent tuberculosis is curable. The profession as a whole are not capable of making an early diagnosis. This statement is intended as no reflection whatever and would be exceedingly unjust if it were. Trudeau is justified in his statement that the "average medical man's idea of tuberculosis only relates to the disease after the rational and physical signs have become well marked." There are two very important reasons why this is true. First, the hopelessness of a cure in times past has made it unnecessary to make an early diagnosis, as the fate of the patient was regarded as the same whether an early or late diagnosis was made. Second, the vast majority of medical men have had little or no instruction, either in or out of college, for the reason that there was a deficiency of clinical material available for the purpose of teaching how to make an early diagnosis. We have had but little opportunity to study developing cases of pulmonary tuberculosis. Patients seen in practice, or text-book descriptions, simply portray the so-called classical features of advanced disease. Neither the profession nor the public is responsible for the conditions which have made it practically impossible for us to make an early diagnosis in the past. Our responsibility is for the future, and we will certainly be culpable if we do not recognize our duty and set about, and that very speedily, to remedy existing conditions.

It is upon the general practitioner that the brunt of the fight against tuberculosis must fall. Most patients come first to him for consultation. Every family physician should, so far as possible, be a specialist in tuberculosis, for it is by far the most frequent disease with which he has to

deal. Few others with intelligent and timely action will bear such good fruit and so much gratitude from the patient and his friends. In no other branch of his practice will the mournful results of erroneous diagnosis or self-complacent irresponsibility be visited so disastrously upon him. He must either be skilled himself in detecting incipient tuberculosis, or, if not, be sufficiently familiar with the subject that he may refer his patient to a specialist in this field in order that no valuable time may be lost. There is no subject in the whole realm of medicine so imperatively demanding proficiency and no field which is so deplorably neglected. The day is past for waiting for the development of the so-called "typical picture" before we hazard a diagnosis. Frequent operations for appendicitis have demonstrated how vague and few the symptoms may be at times and yet how serious the pathological conditions presented. The physician is scarcely more justified in waiting until his patient has become greatly emaciated, has evidences of on-coming softening of the lungs or other well-defined and unmistakable symptoms before diagnosing tuberculosis, than he would be in waiting until a huge tumor had formed at McBurney's point, or a general peritonitis has ensued, before diagnosing appendicitis. A patient rarely consults us because he thinks he has tuberculosis. As a matter of fact, nothing is further from his mind, if the case be an early one. He usually seeks our advice because of some symptom which is annoying rather than what he regards as serious. Tuberculosis is an insidious as well as an elusive foe, and it is well for us to be always on the alert where any symptom is present which may possibly be due to this disease.

To make a diagnosis of incipient tuberculosis by the usual methods is no easy matter. Only a few years ago it required a very skilful surgeon to diagnosticate an early appendicitis. The necessity for an early diagnosis was recognized as so imperative that it engaged the especial attention of the profession for a number of years, until now it is so easy that any general practitioner who can not make a reasonably accurate diagnosis is regarded as culpably ignorant or negligent. The average physician has become so adept in diagnosing this disease that he can now make a diagnosis that would have been almost, if not quite, impossible for leading experts only a few years ago. The same careful attention to making an early diagnosis in tuberculosis will, in a much shorter time and with less effort, lead to the same results.

We too often hesitate in making a diagnosis because of the shock which we know will ensue if we tell our patient he has tuberculosis. We should not hesitate, however, to perform even this unpleasant duty. We should act candidly. It is criminal to tell a patient, while waiting, that he has a little "pulmonary catarrh," "bronchial affection" or "weakness of the lungs," and thus temporarily soothe his feelings while the disease is gaining ground. The patient when he first learns that he has tuberculosis, or even a doubt is expressed, is in most cases shocked and demoralized. He does not feel sick, and as a result resents the diagnosis. He is quite apt to entertain the conventional opinions as to the symptoms of tuberculosis, and the suggestion that he has so serious a disease usually

arouses a storm of protest. This is apt to lead him to compromise with the situation at a time when he is in need of special instructions and vigilant and skilled supervision. He is also quite apt to take the advice of some well-meaning but misguided friend rather than that of his physician. Worse than all, and the one thing which complicates the situation more than anything else, is that he is likely to consult one physician after another until he finds some one careless or ignorant enough to inform him, much to his relief, that he has "only a little weakness of the lungs" or some other indefinite condition, which lulls him into a false security for the time being. The skilful and conscientious physician is thus placed at a disadvantage. This, however, will be only temporary. His reputation will not only not suffer, but will be greatly enhanced in his community and even with the patient when the truth is finally revealed. The careless or ignorant physician will likewise find himself in disrepute. It will neither conduce to his reputation or peace of mind to have the patient complain later "if I had not been misled my life might have been saved."

It is quite the fashion among medical men nowadays to talk very glibly about making an early diagnosis in tuberculosis as if it were so easy that the merest tyro should be expected to know how to do it. The fact is that it is quite an accomplishment for any medical man, under present conditions and disadvantages, to make an early diagnosis based upon physical signs alone, and it is not to his discredit that he can not do so. He has had neither the experience nor facilities. All that should be expected of him, at least for the present, is that he be familiar with those symptoms which may be regarded as suspicious and be sufficiently alert to detect them. He should not feel that his reputation is imperiled by reason of a mistaken diagnosis, and particularly if the error is in favor of the safety of the patient physicians need not fear that their reputations will suffer by such a procedure. This statement is based on an observation of a number of patients who have been received at the Ottawa Tent Colony where a positive diagnosis had been made by their family physicians which was subsequently proven to be incorrect. In every instance the patient has not only rejoiced that he did not have the disease, but praised the physician for his care and discrimination in protecting him.

To discuss the details of physical diagnosis and the various conditions which may be confused with incipient tuberculosis is beyond the scope and intention of this article. My object is not so much to throw any new light on the early diagnosis of tuberculosis as a whole as to present the situation as it now stands with a view to correcting the many errors of opinion and more particularly of practice. My purpose is to point out what seems to be the more common mistakes with reasons why a diagnosis is so rarely made in truly incipient cases.

Some general considerations, however, may not be out of place, especially in view of the fact that so much confusion exists as to what is meant by an early diagnosis. Any classification of the several stages of the disease must of necessity be purely arbitrary. The definition agreed

upon by the National Association for the Prevention of Tuberculosis is the one which is now generally accepted: "Slight initial lesion in the form of infiltration limited to the apex of one or both lungs or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbance or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent." This definition differs very remarkably from the general conception of incipient tuberculosis.

The symptoms the early case presents are most varied and difficult even to enumerate. The indications which call for an examination for possible tuberculosis are the family history, history of recent exposure, of hemoptysis, pleurisy, past or present involvement of lymphatic glands or other structures, hoarseness or loss of voice, cough extending over a period of several weeks with or without expectoration, shortness of breath, loss of flesh or strength without obvious reasons, night sweats or repeated chills or chilly sensations, anemia, dyspeptic symptoms, recent acute illness with protracted convalescence. Any of these symptoms, occurring after childbirth, are all suggestive and should be considered.

The history of previous disease is not infrequently a valuable guide to a diagnosis. When the patient gives a history of a comparatively recent attack of malaria, typhoid fever, or influenza from the effects of which he has not fully recovered, or of a pleurisy or pneumonia, recent or remote, he may be giving a history of what was really a beginning tuberculosis which has been overlooked. How frequently we can say with almost absolute certainty that a so-called malaria was an acute manifestation of tuberculosis. This error is one very frequently made. The same is true, but perhaps to a less degree, of a recent attack of fever which was regarded as typhoid, where in fact the fever prostration, digestive disturbances and the respiratory symptoms have been tubercular. Idiopathic pleurisy is frequently tuberculous. Those who have studied the history of a large number of tuberculous patients state that there is an intimate relationship between idiopathic pleurisy and tuberculosis of the lungs. Those who pretend to give statistical information on this subject variously estimate the percentage at from 40 to 80 of idiopathic pleurisies which eventually develop as tuberculosis. A knowledge of this fact should make us watch every case of pleurisy with care. It is not safe to tell a patient that he has only a little pleurisy and let him go without further attention. There is no occasion for alarming such patients, but it is well to tell them that the pleurisy may be a beginning tuberculosis. At the same time assure them that they will get well. Fortunately cases of tuberculosis that begin with pleurisy are very promising; therefore, we can safely assure them that with proper attention they will get well, but they must take especial care of their health lest a more serious condition ensue. By such advice we are not only making an early diagnosis of tuberculosis in any case, but also

averting the causes which lead to the disease in a considerable percentage of cases.

Pneumonia with its almost identical clinical picture is not infrequently of tuberculous origin, or, if not, lights up a latent tuberculosis which if discovered early would result favorably. Influenza, or so-called "grippe," is a convenient refuge for any careless diagnostician for any respiratory infection not easily classified. Other diseases might be mentioned which are not infrequently confused with tuberculosis, but my purpose is simply to indicate how easy it is to be misled in attributing symptoms to other diseases rather than to enumerate all the mistakes usually made.

Another factor which has contributed in no small degree to a late diagnosis is the undue prominence given to laboratory methods and the tendency to ignore or underrate clinical methods. The unwarranted dependence on the presence of tubercle bacilli and the greatly exaggerated idea of its importance as the only reliable symptom has done immeasurable harm. In these days of laboratory diagnosis there is a tendency on the part of the physician to shift the responsibility of diagnosis from his shoulders to that of the bacteriologist and pathologist. Too much dependence is placed upon and too much valuable time lost in searching for the tubercle bacilli. Too much importance is also attached to negative results. Many physicians exclude tuberculosis because one or, at most, two or three, negative examinations of the sputum fail to reveal the tubercle bacilli. Patients are seen and examined, told to return again with their sputum without having the reasons explained or the difficulties of the diagnosis made clear. This is not infrequently continued until the patient wearies of what is to him a useless task. He either concludes that he has not tuberculosis or goes to another physician. The unwillingness to make a positive diagnosis and treat the suspected case as a consumptive until the tubercle bacilli appear costs the life of many a patient.

It should be borne in mind that tubercle bacilli can not be found in fully 5 per cent. of cases of tuberculosis. The search for the micro-organism should be made repeatedly and at frequent intervals, but negative results should not outweigh a positive or even suspicious clinical picture. There are three symptoms in the initial stage of pulmonary tuberculosis which, when they occur together, are sufficiently reliable upon which to base a diagnosis. These are, first, a dry and hacking cough, lasting for a month or more; second, a progressive loss of flesh, strength and appetite; third, a subnormal temperature in the morning. These symptoms taken together are sufficiently conclusive to warrant a positive diagnosis and in point of time they anticipate the microscope.

Fortunately when in doubt or other methods of diagnosis fail, in these latter days we have a most delicate and reliable diagnostic aid in tuberculin. The technic, while not difficult, is exacting and it should not be used until familiar with the usual methods of its administration. Unfortunately, we frequently meet with an unreasonable prejudice against its use, because of the unskilful and indiscriminate manner in which it

was administered when first introduced. It is absolutely safe if administered according to recent methods. These vary, but the most common and best established is hypodermatically. The latest and simplest suggested is by the eye—the so-called ophthalmo-tuberculin test. This is so simple that any one may administer it and no preparation of the patient is necessary. It is as yet in the experimental stage, but gives promise of being successful.

Thus far the discussion of this subject has been based on the assumption that the patient has presented himself to the physician soon enough to enable him to make an early diagnosis. Unfortunately this is not always, or even as a rule, true; hence we are confronted with another duty and responsibility. The public must be educated. It is too much to expect that we can educate the laity how to make an early diagnosis. We can, however, educate them as to the necessity and teach them a few simple rules which will guide them to the extent that they will go to the physician early enough for him to make a diagnosis. This will not prove to be as difficult a task as it may seem. The public was very quick to respond to the doctrine of the contagiousness of tuberculosis, even to the extent of a morbid fear of the disease. By a little effort we can make the public equally sensitive to the importance of an early diagnosis.

Because so much stress is laid upon an early diagnosis it must not be inferred that no effort should be made to cure advanced and far advanced cases. The results even in these cases have been very satisfactory, but why should we be satisfied with 30, 40 or 50 per cent. of recoveries when we can with less effort in time and expense approximate 100 per cent.? Shall we stop short of the best possible results simply because under present conditions we are accomplishing far more than has been done in the past? It is now generally recognized by progressive physicians throughout the civilized world that early cases (variously estimated at from 75 to 95 per cent.) can be cured. In far advanced cases rarely ever. Moderately advanced and advanced a large percentage under favorable conditions. Because there is but little hope for unpromising cases shall we abandon them to their fate? By no means. This would be as heartless as it is cruel. Our attitude should be the same as toward others who are desperately sick. Give them the benefit of such care as is possible.

There are three interests involved in this problem. The cause, the institution and the patient. In an incipient case these three interests harmonize. Those belonging to the more unpromising classes conflict with the interests of the cause and the institution. While this is unfortunate and has a decided tendency to discredit them both, the interests of the patient must take precedence. While favorable statistics are desirable, humanitarian considerations should always prevail. It is assumed, however, that in the admission of unpromising cases care and discrimination will be exercised and not add unnecessary hardship to affliction. We must not expect to work under ideal conditions at present. Conditions will never be worse than now, and can only be made better by accepting them as they are and improving them as rapidly as possible. The public will promptly respond to the demands of the situation if we

are frank in calling attention to existing evils and suggest practical remedies for their solution.

The success of the sanatorium treatment has been so remarkable in many cases, in fact almost miraculous, when measured by former therapeutic measures, that many physicians who are not familiar with its limitations and who have heard exaggerated stories about recoveries in exceptional cases have become over-enthusiastic and send us patients who are absolutely hopeless, expecting them to make a recovery. We are certainly in need of all the enthusiasm we can stimulate. This excess, however, instead of helping the cause, is likely to result in a reaction and great injury done to the legitimate claims for sanatorium treatment. Such an effect would be little short of a calamity and can easily be avoided by getting our proper bearings.

In meeting the demands of the situation the profession must recognize the fact that we are on the threshold of a new era in our management and treatment of the most destructive disease known to mankind. We are approaching a revolution in medicine which, if not as far reaching, is at least quite as important and, in fact, a component part of that revolutionary movement which began with the recognition of micro-organisms as a cause of disease. That movement compelled a readjustment of our medical opinions and teachings and the unprogressive physician who at that time failed to recognize the trend of affairs or refused to accept the new doctrine lost his prestige with his colleagues and his clientele as well. The readjustment of opinions and methods to conform to the requirements of the present knowledge of tuberculosis are neither so radical nor so difficult as in the acceptance of the germ theory of disease; therefore, I am not prepared to accept the statement of a prominent health official who makes the assertion that the general practitioner can not be expected to diagnose tuberculosis in its early stages.

THE DIAGNOSIS OF CARDIAC INEFFICIENCY.*

GEORGE W. WEBSTER, M.D.

CHICAGO.

The work of the heart is expended in producing that difference in pressure between the arterial system on the one hand and the venous system on the other, which is the cause of the circulation of the blood; to keep the arteries overfull, to keep their elastic walls distended, thus making of the arterial system an elastic bag into which the blood flows intermittently and under high pressure, and out of which it flows under a lower pressure and in a steady flow at a slower rate in the capillaries. Any adequate conception of the symptomatology of weak heart is based on a knowledge of the law which says, "all the conditions which tend to diminish the difference in pressure between the arterial system on the one hand and the venous system on the other must increase venous pressure." In other words, a high arterial pressure means a low venous

* Read before the joint meeting of the Chicago Medical Examiners' Association, and the Chicago Medical Society, Nov. 20, 1907.

pericardium, pregnancy. The toxic causes are many and include alcohol, lead, tea, coffee, syphilis, nephritis, high living, diabetes and the toxins of such infectious diseases as rheumatism, influenza, pneumonia, diphtheria, scarlet fever, typhoid fever, smallpox. Failure of nutrition may arise from anemia, and disease of the coronary arteries of the heart may enlarge beyond the nutritional possibilities of these vessels.

Myocarditis may result from the toxins of the acute infectious diseases and such diseases as syphilis, diabetes, etc. Fatty degeneration may be caused by gout, lead, syphilis, alcohol, phosphorus poisoning, anemia. Loss of muscular tone may result from shock, grief, worry, etc. The nervous system, while it neither initiates nor maintains the rhythmic movements of the heart, does control and influence and regulate them, and through it the heart's movements may be modified or even arrested. While any one of these factors alone may ultimately result in the overthrow of the heart, it is unusual to find only one at work. For example, in nephritis there is the overwork through sclerosed, contracted vessels, the toxemia or nerves and of heart muscle, together with impaired nutrition due to the depraved blood state. In pneumonia there is the increased work of the right heart, the toxemia of the heart muscle, the resulting degeneration. In arteriosclerosis there is overwork, toxemia, diminished blood supply of a depraved character through sclerosed coronaries to the heart muscle, which may have already hypertrophied to such an extent as to have outgrown the nutritional possibilities of even normal coronary arteries. But it is unnecessary to multiply examples.

It must be apparent to the most superficial observer that in any estimate of the actual efficiency of the heart in any given case it is important to take a broad comprehensive view of the subject, and that an etiological diagnosis is absolutely necessary.

SYMPTOMS.

The symptoms may be summarized as all those manifestations which grow out of venous engorgement.

Sleeplessness is often the first symptom to attract the attention of the patient. Sometimes the sleeplessness is due to the patient's inability to lie down and is relieved by a high pillow. At other times it is due to palpitation, nervousness, dyspnea, hacking cough. It becomes more significant if it occurs after a sleep of several hours.

Dyspnea of effort is perhaps the earliest sign of cardiac weakness, owing to the fact that venous engorgement occurs earliest in the pulmonary circulation. This air hunger may be slight and only after considerable exertion, or may be extreme with almost incessant cough, edema of the lungs, extreme anxiety, inability to lie down.

The cough may be only slight and occur on exertion or on lying down, or it may be severe, almost constant, and with bloody expectoration.

Precordial anxiety, a feeling that the heart is too large for the chest, or there may be a feeling of weight or oppression, seldom of actual pain.

Indigestion and diarrhea may occur from venous engorgement of the

digestive organs, and there may be weight and heaviness in the right side due to engorgement of the liver.

The urine may be scanty, high colored, irritating and may contain albumin and casts.

Cheyne-Stokes respiration is usually associated in our minds with cerebral disease and with pathologic changes in the medulla, but I believe it one of the early symptoms of myocardial disease, and Osler says that it is associated with chronic myocarditis oftener than with any other form of disease of the heart.

The Stokes-Adams syndrome, with its slow and infrequent pulse, transient vertigos or deep coma, its pseudoapoplectic attacks, slow stertorous breathing or Cheyne-Stokes respiration, is strongly suggestive of myocarditis.

True angina pectoris, while a symptom of coronary artery disease, is also a symptom of myocarditis and it is commoner in myocarditis than in any other form of cardiac disease.

The value and significance of any symptoms or signs when taken alone may be very slight indeed. It is only when viewed in the light of its associations that it becomes important and significant. A slight increase in the frequency of the heart, out of proportion to the temperature in a child, means much more when it occurs in the course of one of the acute infections than it does in an acute indigestion, and it means more in diphtheria and scarlet fever than it does in rheumatism. Precordial anxiety means more in the case of a man of 55 than it does in a young man of 20 years. Breathlessness on exertion is significant, but the same symptom occurring without exertion and during the night, and in a man of advanced years, and with sclerosed arteries, becomes of very grave import. Arrhythmia in a young person who takes little exercise and is anemic and works and sleeps in a poorly ventilated room is significant; it means that the auricles where the impulses originate are poorly supplied with depraved blood, but this symptom is far more serious in one with a dilated heart and hardened vessels.

Since it is well known that the toxins of diphtheria poison the heart muscles, that this results in parenchymatous degeneration which may be present for weeks, and since Krehl says "it has been definitely settled that the myocardium is anatomically injured by influenza," and since typhoid fever, lobar pneumonia, scarlet fever and erysipelas may result in myocardial disease, and since children are especially prone to these acute myocardial changes, arrhythmia, an increase in cardiac frequency out of proportion to temperature or after the fever has subsided, or a slow, infrequent pulse, should at once attract our attention, and its possible seriousness should be borne in mind. These symptoms, although slight in themselves, should, when taken in connection with a history of infection, be watched and treated with extreme care if we would avoid chronic myocarditis or the evil results of ill-timed activity.

Acute dilatation in acute alcoholism is less important than the same symptoms in the course of or following an acute infectious disease.

SIGNS.

After all, it is by means of the physical signs, "the handwriting on the wall," the symbolic history written out in legible characters for him who can interpret them, that the patient is individualized and the character of the work of his heart determined. This examination should be careful, painstaking and thorough. More mistakes are made from want of examination than from want of knowledge on the part of the examiner. Be methodical. Method is more important than fact. Method makes us independent of facts; it enables us to utilize all known facts, and it puts us in the way of discovering new facts. Method makes the difference between the man who discovers mere facts and the man who discovers laws.

Balfour tells us that thirteen years may intervene between the beginning of dilatation with symptoms and unequivocal signs of the same. Surely all this time there is evidence if we search for it and are able to recognize and interpret it. I fear too often there are those of us who, as the French proverb has it, "go through the forest and see no firewood." We should begin with a careful examination of the entire body by inspection and palpation combined, searching first of all for evidence of the existence or previous occurrence of any of those diseases which bear an etiological relationship to disease of the heart, or any intrinsic or extrinsic causes of overwork, or any causes of shock, strain, degeneration or toxemia.

The skin should be examined for any change in pigmentation, vascularization or edema, and the location of the latter should be noted. Pale straw-colored jaundice is common when the liver is engorged from weakened right heart. Cyanosis indicates impaired oxygenation of the blood and therefore pulmonary engorgement, which means weak heart. Swelling of the legs and feet indicate a high venous and consequently low arterial pressure and inefficiency of left ventricle. Edema of the lower eyelids often means nephritis, which increases the work of the left ventricle, and the resulting toxemia combined with overwork leads to an ultimate failure of the left heart.

Venous turgescence means high venous pressure, which always means low arterial pressure due to cardiac weakness. A systolic pulse in the enlarged external jugular is evidence of relative insufficiency of the tricuspid. A capillary pulse means interference with one or more of the three factors, vascular elasticity, peripheral resistance and sufficient frequency of ventricular contraction, which convert the intermittent outflow from the heart into the steady flow in the capillaries and is commonly present in aortic regurgitation.

The eyes should be examined with care. An arcus senilis is common in myocardial degeneration, and slight jaundice is often apparent only in the conjunctiva. The eye grounds show the earliest evidence of arteriosclerosis.

The hands should be examined for cyanosis, pigmentation or clubbing of finger ends, the latter indicating deficient aëration of blood for a considerable period of time. Anemia is early seen in the hands and

nails. Longitudinal ridges on the nails indicate a gouty condition, and transverse furrows may reveal even the time of a recent severe illness.

The pulse should be examined and the frequency, rhythm and character noted. A slight increase in frequency, out of proportion to temperature, may be the only symptom of acute myocardial degeneration in the acute infectious diseases. A slow, infrequent pulse is of more serious import under the same conditions. Arrhythmia is common in disease of the auricular branches of the coronary artery, in toxemia of the auricular muscle or anything which interferes with the origin or impulses in the auricles or their transmission to the ventricles. The blood pressure may be measured with a Stanton or other instrument, as it furnishes valuable and trustworthy information concerning the work of the left ventricle. The arteries should be inspected and palpated for evidence of arteriosclerosis, and the carotids inspected, as throbbing is characteristic of aortic regurgitation and, with a heaving thrusting heart beat and an apex beat displaced outward and downward, is diagnostic of this affection.

We come now to an examination of the heart region. Cardiac inefficiency is indicated by throbbing in the epigastric region, a weak, diffuse, feeble cardiac impulse, the apex beat not easily localized, but out to the left, and in some cases downward. The cardiac area is irregularly quadrilateral in outline, the dulness may extend to or beyond the right sternal border and to or beyond the nipple on the left. These signs, when associated with breathlessness and cyanosis, mean dilatation in the clinical sense, which means that there is a want of balance between the heart and its ability to work, that it is failing in its task of keeping the arteries overfull.

Auscultation, instead of being the first, should be the last step in a systematic examination of the heart. Auscultation should never be practiced until all possible information has been obtained by all other means. Then it should be done in accordance with correct methods. We begin by an examination of the individual heart sounds, determining whether these are normal in situation and intensity, and whether there is the normal disparity between the aortic and the pulmonic second tone, the disparity being in favor of the latter, at least up to adult life. An unusual accentuation of either of the second sounds should be interpreted as indicating undue pressure in the arterial system to which it belongs, or dilatation of the aorta, together with the fact that the ventricle belonging to the said system is satisfactorily performing the additional work which has been imposed upon it. For example, accentuation of the pulmonic second sound in case of mitral valve disease not only indicates the probable seat of the lesion, but that it is reasonably compensated as well. Weakening of all of the heart sounds or of individual heart sounds should be carefully noted. In syphilitic myocarditis, for instance, the heart sounds may be quite inaudible, particularly at the apex.

After having carefully studied the individual heart sounds, their position and relative intensity, the next step is to see whether they are ac-

accompanied or replaced by murmurs. We thus see that the most important questions concerning the character of the work done by the heart may be answered without the use of the stethoscope. Many examiners begin the interrogation of the heart by the use of the stethoscope, and their examination ends with its use. If murmurs are present they are recognized, and if not the heart is often pronounced healthy when the patient may be in danger of sudden death from a myoearditis.

My plea is for, first, more thorough, careful, systematic, painstaking examination; second, the recognition of those diseases or conditions which bear an etiological relationship to diseases of the heart; third, make the use of the stethoscope the final instead of the first step in the diagnosis; and fourth, the important thing is not one symptom or sign, but its significance when taken in connection with all others, its associations, the whole clinical picture, a complete clinical diagnosis which must include an etiological diagnosis.

THE WORK OF THE EDWARD SANATORIUM FOR THE
TREATMENT OF PULMONARY TUBERCULOSIS,
NAPERVILLE, ILLINOIS, DURING THE
YEAR 1907.

(A DEPARTMENT OF THE CHICAGO TUBERCULOSIS INSTITUTE.)

THEODORE B. SACHS, M.D., Medical Director.

With a tuberculous population estimated at 20,000, the city of Chicago until one year ago had no provision for the treatment of cases of tuberculosis in the curable stages. The eyes of every consumptive were turned to the far western states as the only parts of the country in which tuberculosis could be cured. Thousands of men and women, with or without means, with no clear understanding of their condition and the proper method of treatment, were drifting annually to Colorado, Texas, Arizona, California, etc., "the land of hope," the climate which their imagination, and at times the misleading medical advice had endowed with wonderful healing power, before which the manifestations of every case of tuberculosis disappeared like magic.

Disappointment and despair were the lot of a large proportion of these patients. When far away from home, in a strange city, they were bound sooner or later to come to the realization that among the elements of treatment of their disease climate holds a secondary place; that after all, in their home climate, with all its seeming disadvantages, a proper mode of treatment could have been easier instituted with but a fraction of the expense entailed in a trip to a far-away state. Homeless and friendless, a large number of them perished annually for the mere lack of nutritious food and other necessities of life; others, discouraged, wandered home in a more advanced stage of the disease, longing to pass the brief remainder of their life near their relatives and friends. Thus a tremendous waste of energy and money was taking place, with very little benefit to the patient and great financial drain upon the frequently meager resources of the consumptive's family.

That tuberculosis in the early stages can be cured under any climatic conditions was demonstrated long ago by the records of sanatoria in all parts of America and Europe. The results of such institutions as Adirondack Cottage Sanatorium at Saranac Lake, Loomis Sanatorium at Liberty, Bedford Sanatorium, Muskoka Cottage Sanatorium in Canada, Sharon Sanatorium, Massachusetts State Sanatorium, Ottawa Tent Colony, etc., all situated in widely different climates, are due essen-



General view of the Edward Sanatorium, Naperville, Ill. (Branch of the Chicago Tuberculosis Institute.)

tially to the thorough manner in which the principles of open-air treatment are carried out. The experience of the Edward Sanatorium is but a new addition to the accumulated evidence in favor of this doctrine.

The establishment of this sanatorium for the treatment of incipient cases of tuberculosis at Naperville, Ill., (this institution being at present a department of the Chicago Tuberculosis Institute) was made possible by the benevolence of one of Chicago's public-spirited women, Mrs. Eudora Hull Spalding. In the selection of the site, plan of the admin-



Administration Building, Edward Sanatorium, Naperville, Ill.

istration building, character of the outdoor sleeping quarters, etc., Mrs. Spalding displayed excellent judgment and familiarity with sanatorium requirements, which she had an opportunity to study in the eastern states. She created a magnificent plant, which can be very easily extended to provide accommodation for 100 patients, this being the ultimate object to be realized in not a distant future by the Chicago Tuberculosis Institute.

The sanatorium is located a quarter of a mile south of Naperville, Du Page County, Ill. Communication from Chicago is by the Chicago, Burlington & Quincy Railway, suburban trains leaving the Union Depot every two or three hours and reaching Naperville in fifty or sixty min-



"Taking the cure" at the Edward Sanatorium.

utes. The site is a farm of thirty-nine and one-half acres. The ground is elevated, affording an unobstructed view of picturesque scenery for miles around. Across the roadway is the Du Page river, with numerous groves of trees east of it; south, west and east of the institution—the boundless stretch of sloping ground and fertile land.



Interior of sleeping shack at the Edward Sanatorium.

The front part of the ground is occupied by an orchard and a large lawn. The administration building, placed some 400 feet back from the thoroughfare, is a two-story building with basement, of an attractive simplified Colonial design and built of wood. The main portion is about 61x32 feet and an L 57 feet long at the rear. The south and

east sides of the building are surrounded by open-air verandas. The basement contains the heating plant, gas generating apparatus, plant for hot water, fumigating room, bath and toilet facilities and store-rooms. The first story includes a commodious assembly room, dining room, office, and in the annex, placed perpendicularly to the main building, a large kitchen of modern construction and furnishings, laundry, etc. On the second floor are rooms for the nurses and other employés. The building is so arranged that future additions can be easily made as they are found necessary. Water is supplied from an artesian well, a gasoline motor being used for conducting the water to all buildings and keeping the water tank full.

The sleeping quarters of the patients are open-air shacks, durably built, modeled (with some modifications) after Dr. King's lean-tos of the Loomis Sanatorium. Two shacks for women provide accommodation for sixteen, one men's shack for ten, nurses' shack for three. The shacks are provided with dressing rooms, toilet and lavatory facilities, electric light, etc.

The plant includes also a farm house with all the accessory buildings, an icehouse, a crematory for the burning of garbage, etc. The total capacity of the Edward Sanatorium at present is twenty-six. Plans are being formulated by the Chicago Tuberculosis Institute to extend the facilities of this institution to provide for 100 patients. It is proposed to erect a special structure to meet the following requirements of this institution: 1. "Observation" rooms with provision for outdoor treatment; in these rooms the new cases are to be studied during a trial period, at the expiration of which (if the course of the disease offers a favorable prognosis) the patient can be transferred to the open-air shacks. This provision is expected to facilitate the selection of proper cases and the institution of individual treatment in each case. 2. Provision for patients developing during their stay intercurrent affections (pleurisy, etc.). 3. Isolation rooms. 4. Examining rooms. 5. Laboratory. Ultimately the present administration building is to be transformed into a "service" building (dining rooms, kitchen, laundry, etc.). New shacks are to be erected from time to time as the number of patients grows.

The open-air method of treatment is followed in all its details at the sanatorium: absolute rest or regulated exercise, according to the individual condition; a liberal diet individualized as much as possible, according to the requirements of the case; strict medical supervision of all details. The earnest co-operation of the patient is obtained without difficulty, creating a cordial understanding between them and the management, and resulting in an atmosphere of contentment so essential to the successful management of tuberculous cases.

Koch's Bacillen emulsion is used in selected cases. The convalescent patients are supplied with work suited to their physical condition and individualized according to their general make-up and the kind of work they expect to do on leaving the sanatorium. This plan is carried out to the extent permissible under the present conditions of the institution.

It is proposed not to discharge patients as "apparently cured" or "arrested" until they demonstrate their ability to do several hours' work a day at the sanatorium without affecting their condition. A supervision of the discharged patients is continued by means of special "inquiry slips" filled out by them at the end of each month.

Out of twenty-six beds ten are free at the disposal of the Visiting Nurses' Association of Chicago, sixteen patients pay \$10 a week each. It is proposed to form women's auxiliaries throughout the city for the purpose of supporting patients at the sanatorium, either fully or at half-rate. The first auxiliary is made possible by a contribution by Mrs. Louise De Koven Bowen of Hull House.

So far 61 cases have been treated at the institution:

Incipient	36
Moderately advanced	21
Not classified (left at the end of a few days)	4

CLASSIFICATION OF DISCHARGED CASES.

Condition on Admission.		Condition on Discharge.	
Incipient	20	Apparently cured	10
		Arrested	10
Moderately advanced	10	Arrested	5
		Improved	4
		Unimproved	1

CLASSIFICATION OF PATIENTS AT PRESENT IN SANATORIUM.

Incipient	15
Moderately advanced	11

The sanatorium is under control of the Chicago Tuberculosis Institute (51 La Salle St., Chicago), of which Dr. Henry B. Favill is president; Drs. Frank Billings and Robert H. Babcock, vice-presidents; David R. Forgan, treasurer; Ernest P. Bicknell, secretary, and Dr. E. A. Gray, chairman executive committee. The board of directors of the institute consists of Drs. W. A. Evans, N. S. Davis, A. C. Klebs, Theodore B. Sachs, L. Hektoen, Charles L. Mix, John A. Robison, Edwin W. Ryerson, Messrs. Sherman C. Kingsley, Stanley McCormick, Miss Harriet Fulmer, Mrs. Robert McGann, Mrs. Jesse L. Moss and Mrs. James L. Houghteling. Mr. Alexander M. Wilson is superintendent of the institute. Miss Laura A. Fetzer, a trained nurse, is superintendent of the sanatorium; her assistants are Miss Winnifred McEdward and Miss Laura Harris.

With six tuberculosis clinics (established at Rush Medical College, United Hebrew Charities Dispensary, Northwestern University Medical School, College of Physicians and Surgeons, Chicago Policlinic and Hahnemann Medical College), the Edward Sanatorium at Naperville, an educational department arranging popular lectures before all kinds of organizations, with a board of directors enthusiastically working shoulder to shoulder, the Chicago Tuberculosis Institute has at last succeeded in laying a permanent foundation for an effective campaign against the white plague in Chicago.

SPECIFIC INFECTION OF THE FEMALE.*

J. P. ROARK, M.D.

BUSHNELL, ILL.

Fellow-members of the Military Tract Medical Association, I wish to extend to you a hearty welcome to this, my home town, and to assure you that I appreciate the honor you have conferred on me in calling me to preside over your deliberations. This association was the first medical society that I joined after taking my degree in medicine and it is still first in my affections. And while a man belongs to his county society as a duty that he owes to himself and to the whole profession, and this makes him a member of the state society and eligible to membership in the American Medical Association, it is always his personal affection for old friends that makes and keeps him a member of the Military Tract Medical Association. I believe it has been customary for the presiding officer to review in a general way the progress of medicine, but for my paper I have chosen a subject that has interested me for some time for the reason that I conceived that it had not received its proper attention either from the general practitioner or the specialist.

Specific infection of the female as it concerns the general practitioner is a condition that interests primarily the general practitioner, for the reason that he is called nearly always as first aid, and when the specialist finally sees the case it is because the complications have grown so grave that the ablation of some organ is in view as the only remaining means of either saving the life of the patient or of alleviating the condition of affairs. The wide prevalence of the coccus of Neisser and the almost general infection of the human race with this pathologic germ makes the number of these cases great enough to challenge the genius of any man to an attempt in its control. After consulting statistics of American observers I am inclined to make the statement that at least 50 per cent. of the young male adults in the United States have now, or have at some time in their lives, been infected with gonorrhea. This looks like a high estimate, but any man who has served at a free clinic in one of our large cities would, I believe, be more inclined to put it at 90 per cent.

Now, 95 per cent. of these young adults are, in a few weeks from the date of their infection, subjectively cured; that is, so far as they themselves know, they are entirely well. Actually what has happened in a large number of them is they have acquired an immunity to the particular strain of gonococcus with which they have been infected and no longer suffer from the symptoms of inflammatory reaction that was present before immunization. These cases are especially dangerous, because they are apt to become foci of infection in both licit and illicit intercourse. Given a young man of this class, we will assume he contracts matrimony with a girl who thinks she is not yet ready to assume the trials and responsibilities of maternity; the vaginal douche is used, and nothing in this world is more certain than that we will have a case of "pus-tubes." The general practitioner may prevent at least a part of

* Presidential address at the meeting of the Military Tract Medical Society, 1907.

these cases by plain talk to both parties to the marriage contract and by a conscientious use of his microscope.

In discussing gonorrhea it will be well not to lose sight of the fact that to no other single agent can be traced so many of what are known as diseases of women, and that practically all of these women have spent the first weeks or months of their infection under the care of the general practitioner; if they have done poorly, it must be charged against his inefficiency. Considering the number of radical surgical procedures that have been thought needed in gonorrheal infection, it does really seem that the general practitioner has been inefficient. Yet he can scarcely be blamed, in my opinion. He buys a copy of somebody's gynecology and finds many pages devoted to the subject, "How to curette the uterus." He finds in his book "steen" different kinds of endometritis. He finds whole chapters devoted to the technic of enucleation and resection of infected tubes. He has the merits discussed pro and con of the vaginal route as compared with the abdominal route, and he gets a scant chapter hurriedly written devoted to the treatment of the initial stages of the disease which is the commonest cause of all these procedures. This chapter differs in one book from another only in the favorite antiseptic. They each recommend the vaginal douche; it makes no difference whether the case is one of specific urethritis, vulvitis, vaginitis or metritis.

Some 4 or 5 years ago a careful worker and thoughtful surgeon in Chicago, A. J. Ochsner, by name, as a result of his observations of a great number of cases of appendicitis, evolved a plan of treatment that has saved a great many lives and has redounded to his honor over the whole world. The general practitioner who has made himself thoroughly conversant with the Ochsner treatment now knows what to do and what not to do when he is called to care for a case of appendicitis. This is really what he did *not* know before Ochsner's observations. It seems to me our gynecologists have been so taken up with "technic" of operations they have failed so far in elucidating anything of value in the treatment of the causal base, so to speak.

Gonorrhea in the female, as in the male, becomes a disease of grave import only when the deeper tissues of the genital tract are invaded. Specific vulvitis and urethritis are not dangerous to life nor do they in themselves do any permanent injury to the patient. I have been at some pains to get the estimate of writers on the question of the proportion of deep infections to the whole number of cases. I have not been able to find a definite percentage estimate, but would say, in a general way, the older authors seem to consider deep complications the exception, while the later authorities seem to consider it the rule, sooner or later, that there will be symptoms implicating the uterus and appendages. There must be a reason for this diversity of opinion, and I will revert to this phase of the subject later.

The question of the primary location of the gonococcus seems to be a matter of some dispute. Ashton, a late writer, gives the urethra, cervical canal and vulva, in the order named, as the primary foci of infection. All authorities are agreed that the primary involvement of the vagina is rare in the adult. From my experience I am inclined to deny that the cervical canal is ever the primary seat of infection.

Gonorrhea has been a detested guest of the human race for many centuries, but it seems to have acquired new terrors in the last 25 years. For instance, sterility is much more prevalent now than it was, say, 100 years ago. This is true in all highly civilized countries. There must be a reason for this. Gynecologists tell us that gonorrhea is the cause of sterility in the great majority of cases. I believe this is true. Now we know that gonorrhea has been common in western and southern Europe for at least 5 centuries, and the people of these countries, until the last half-century, have been the most prolific of races. That they have had gonorrhea and still had children is evidenced by other things; the great number of cases of ophthalmia neonatorum among them shows it, for example. Medical literature of that time proves that gonorrhea was almost as common 200 years ago as it is now, but no one thought of the race dying out on that account. The gonococcus has not changed its spots, but the customs of the people may change.

The diagnosis of gonorrhea is usually readily made in an acute attack. The patient complains of local irritation, tenderness and pain. The diagnosis is based upon the violence of the local inflammation, especially when it follows a suspicious intercourse. Involvement of the urethra is characteristic, as a rule, of the specific nature of the case, and inflammation of the inguinal and vulvo-vaginal gland is also suspicious. The presence of gonococci in the secretions confirms the diagnosis. The discharge after the first two or three days is profuse and purulent, and pressure on the urethra is followed by the appearance of a drop or two of pus at the meatus. There is seldom a rise of temperature, but generally a marked feeling of malaise, and if the infection has been virulent there is apt to be menorrhagia present. One fact that stands out clearly and is so stated definitely by all the authorities that I have been able to consult is that the vagina of the adult is never, or at least very rarely, the primary seat of infection. It will be well to bear this fact in mind when we discuss the treatment of specific infection of the female.

TREATMENT.

In the treatment of the gonococcus infection, something of value may be learned from the treatment of infectious diseases in general. Twenty years ago when the antiseptic idea was at its beginning it was thought by many physicians that it was possible to introduce antiseptic remedies into the system and actually kill the offending micro-organism wherever it was present. This idea has proved altogether erroneous, and in such diseases as typhoid fever, pneumonia, gastro-intestinal disorders and septicemia has been given up by those physicians who keep in touch with the advances of medicine. Even the local use of antiseptics is becoming more and more limited. In connection with this statement it will be of interest to quote Sir Almothe Wright, certainly an authority on matters pertaining to this phase of this subject.

In a lecture delivered before the Harvey Society, New York, Oct. 20, 1906, which may be found in *The Journal* of the American Medical Association, Aug. 10, 1907, in enumerating the methods we have at our

command for the treatment of bacterial disease under the head of "Chemical Antiseptics," he says: "Antiseptics have found in medicine a three-fold application. They have been administered internally with a view to checking microbial growth in the blood or in regions which can be reached only by the channel of the blood. They have been applied locally with a view to holding in check and extinguishing localized bacterial infections. They have been used for the purpose of checking putrefaction, in discharges and devitalized tissues.

"Neither the first nor the third of these applications calls for any discussion. For some time past it has been all but universally recognized that it is futile to attempt to check bacterial growth in the interior of the organisms by our present antiseptics, which have a greater affinity for the constituent elements of the body than they have for any bacteria. . . . Attention may, therefore, be concentrated here on the issue as to whether or not the antiseptic applications are effective in holding in check and extinguishing localized bacterial infections.

"It is, of course, currently believed that this method of treatment is effective. It is in this faith that the surgeon introduces antiseptics into septic wounds or, when he happens to be so minded, into abscess cavities. It is in this faith that the physician resorts in the case of pulmonary infections to the use of antiseptic inhalations. And it is in this faith that the dermatologist, gynecologist, laryngologist, aurist and genito-urinary specialist are strenuous in the application of antiseptics each to the particular province of the body which he takes under his special care. It will be profitable for us to collate the facts and to consider whether or not there is in reality any trustworthy basis for the belief that inspires all this practice. Significant in this connection appears to me the fact that antiseptics are now by general consent abandoned in the treatment of ordinary surgical wounds. Significant also is it that the practice of introducing antiseptics into abscess cavities is now less and less frequently resorted to. *Significant, again, is it that treatment by antiseptics in case of bacterial invasions of mucous membranes is to-day more and more frequently followed up by curetting, scraping and so-called radical operations.*"

He further says: "Let me put the case as it appears to me. It is, of course, axiomatic that antiseptics can take effect only on those bacteria with which they come in contact. It is obvious, also, that in case of bacterial infections of the skin and mucous membranes the infecting bacteria will not all be lying on the surface and that they will not, when lying on the surface, be limited, with respect to their distribution, to those regions which are accessible to antiseptics. It follows, therefore, that it will be unreasonable to expect from any application of antiseptics anything in the nature of a complete sterilization. In every case there will remain a residue of surviving bacteria, and the survivors will inevitably multiply and reoccupy the disinfected surface. And this is not all. The antiseptic, as the unthoughtful assume, will not add its antibacterial power to the antibacterial power of the living organism. On the contrary, the antiseptic will directly antagonize the protective forces which the living organism has at command; it will paralyze the phagocytes and will abol-

ish the antibacterial power of the blood fluids. By the action of the antiseptic the disinfected surface will thus be left swept and garnished for reoccupation by the expropriated bacteria.

"Again, this is not all. The antiseptic application will also injure the histologic elements and in particular the capillaries of the tissues to which it is applied. It will thus lead to an outpouring of lymph from the disinfected surface. That outpouring will not only wash away the antiseptic, but when a skin surface is in question it will convert the natural dry and horny epithelial armor into a lymph sodden envelope which will be easily penetrable by bacteria."

I have quoted thus extensively from Wright's epoch-making paper because he is probably at this time the best authority in the world on the distinctive characteristics of pathogenic bacteria. I understand it was Wright's views on what I have dubbed the antiseptic idea that had much to do in leading him to make his celebrated discoveries. I confess that I read his article with great satisfaction for the reason that it confirms so many of the statements contained in a paper I read before this society four years ago in Peoria, entitled "The Influence of the Antiseptic Idea on the Practice of Medicine."

In laying down a treatment nowadays it is usual to say a few words under the head of prophylaxis. And this is very important in the disease under discussion. I think every general practitioner should explain to every adult female in the families under his care the important function of the vaginal secretions. Explain to them that this secretion, owing to the peculiar anatomical construction of the female organs of generation, is the principal protection they have against infection of the uterus, tubes and peritoneum. Tell them plainly that to wash away this secretion even with hot water is always attended with danger. This knowledge will probably prevent attempts at self-treatment which many of these patients try by way of a douche before seeing their regular medical attendant. Under the head of prophylaxis would come the acquainting of your clientele with the dangers attending illicit intercourse. Quite an effort now is being made by the profession in some places to educate the people up to the point where they will no longer desire or sustain illicit relations through fear of the consequences. I do not have much faith in the plan, and for myself I am quite willing to let the clergy retain their task along that line.

In considering the subject of treatment, I confess it is with a feeling of diffidence that I bring articles of impeachment against men who have made special study of the subject under discussion, and particularly when these men are a unit in their conclusions. But when I contemplate the results of this treatment; when I see every hospital in the country filled with the results of this treatment; when almost every day I meet on the street some hard-faced woman who has lost ovary and tubes because of the inefficiency of present methods, I feel impelled to "declare the faith that is in me."

In instituting treatment of specific infection of the female, I will ask you to bear in mind that, in common with other pathogenic bacteria, the gonococcus in itself is not injurious; it is the toxins generated by the

gonococcus that destroy the viability of the tissues with which they come in contact. Efforts to destroy the germ itself are only properly made as in other diseases to prevent contagion of uninfected individuals.

We have seen that either the urethra, vulva or cervical canal is almost always the primary seat of infection. If only the urethra and vulva are involved, any man should be able to see the danger that would be connected with using the antiseptic vaginal douche, and if the cervical canal be involved the utter uselessness of the douche so far as effecting a cure of the symptoms. There is another reason for not using the douche besides that of carrying the infection deeper. By its use the vaginal secretion is washed away, and of this secretion Doderlein says: "Because of the phagocytic action of the acid-forming bacillus of the vagina the gonococcus will not long survive." It is only when the vagina becomes, from the use of antiseptic, a "lymph sodden envelope," to use the words of Wright, that this function becomes suspended. The only proper treatment for this condition is rest in bed, if possible, and the local use of hot water in the form of sitz-baths. This method of treatment, which is simplicity itself, has resulted in a cure for me in all the cases I have had under my care during the last six years. There is not the slightest cause for worry about the copious vaginal discharge that usually occurs during the attack. It is the physiologic attempt of the vagina to destroy the invading bacteria.

When the patient has gained her immunity, as evidenced by a complete subsidence of all inflammatory symptoms, she is often able to infect her consort from the germs that still linger in the genital tract. The best method I have found to disinfect the parts is that used and highly recommended by Chappelle of Paris. He uses a "pure desiccated form of yeast known as cerevisine, which may be exhibited in the form of a pessary of cocoa butter filled with cerevisine and placed in position on going to bed, or it may be used as a paste made up with glycerite of starch. The quantity for application is not important, as it is perfectly harmless, but from 1 to 2 teaspoonfuls can usually be introduced and retained in the vagina during the night. I have used this preparation, a sample of which I show you, and I find it very effective as a disinfectant. I have found 3 to 5 treatments made about every third night quite sufficient to remove all germs.

If deep infection has taken place before the patient is seen, she should be put to bed in an open, sunny room after the manner of what is called the solarium method in the New York Lying-in Hospital. Especial attention should be given to her nourishment, bowels moved each day with large enema, as that will carry off much of the toxins formed each day, and I am convinced that purgatives do interfere with the immunization process. Patient should be kept quietly in bed until all inflammatory symptoms have subsided. The lower abdomen should be supported with zinc plaster before the patient gets up and about. This support undoubtedly promotes absorption of adhesions by preventing irritation from abdominal movements. Medicinally I have given with seeming benefit liquid nuclein (P. D. & Co.), dose 5ii in half a glass of cold water, 1 hour before taking food, 3 times a day. If the temperature

is high, I give quinin, gr. xx, at bedtime. These cases often become pregnant in the course of 1 or 2 years, showing complete recovery. There is no reason why any of them should become invalids.

At one time it was thought that all these cases of deep infection must pass through the hands of the abdominal surgeon before any hopes of their recovery could be entertained. That idea is even now on the wane, and all that is needed for its complete dissipation is that the general practitioner demonstrate his efficiency. Being myself a general practitioner, my fondest hope is that the demonstration may be accomplished.

SOME CONSIDERATIONS OF THE EFFECTS OF GENERAL ANESTHESIA FROM THE VIEWPOINT OF TO-DAY.*

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Over sixty years have elapsed since anesthesia was first purposely produced to secure immunity from pain during the performance of surgical operations. Since that time millions have been benefited by the discoveries of Wells, Morton, Warren, Simpson and others. During this period of time anesthetics have been administered by all sorts of persons, male and female, qualified and unqualified, scientific and ignorant, with truly wonderful results. That such powerful drugs as nitrous oxid, sulphuric ether and chloroform can be given to all kinds of patients under all possible conditions, with so small a mortality as the records show, truly is marvelous. There is, however, a mortality rate. There are results occurring every now and then which point out the fact that we are not as yet possessed of the ideal anesthetic, of a drug which can always be administered with perfect safety, and which produces analgesia and sleep from which no distressing or unpleasant symptoms arise. That such great scientific bodies as the American Medical Association, the British Medical Association and the American Surgical Association should recently devote much thought and time to this subject is further evidence that such an agent is still sought for, and also evidence of the dissatisfaction existing with many of the observed results of modern methods of inducing anesthesia. A number of deaths occurring in this community and a number of "close call" cases during a recent period of time is further evidence near at hand to all of us of the dangerous nature of general anesthesia, and calls for earnest consideration and careful study on the part of all of us. We recognize the fact that anesthesia interests every practitioner, whether he be a family physician, a specialist, a dentist or a surgeon. The subject is so broad and the details of its study so manifold that it calls for particular and conscientious care on the part of every one who administers anesthetics.

One of the first points to be settled in the administration of any drug is the size of the dose. Having determined its physiologic and therapeutic action, the dose to be given must and can be determined. This dose is of definite size, as it is introduced into the organism and

* Read before the McLean County Medical Society, Dec. 5, 1907.

is known or can be easily determined in reference to almost any agent. This statement, however, does not apply to such anesthetics as are taken by inhalation. The quantity used and the time employed in the inhaling process do not demonstrate the amount actually taken up by the tissues. Such an eminent authority as Hewitt, emeritus lecturer on anesthetics at the London Hospital, states that "our knowledge of the dosage of anesthetics is not sufficient to warrant any very definite pronouncement upon this point." With the great variation in methods and manner of administration, this matter becomes one of great difficulty. If the dosage is not known, it follows that an overdose is not readily determined. That an overdose has been employed in a given case may appear, but only after effects are apparent which are beyond the danger line.

Again, the same authority, in summarizing the general effect of anesthesia, states that "there is lack of definite knowledge along this line." It is agreed that anesthesia is brought about by some change of a physiochemical character within the protoplasm of the nerve cells. But whether this change is due to the "local effect of the agent itself on the cell contents, or whether some alteration in the blood produced by the anesthetic is the immediate cause of such changes, it is impossible to say." This question of "how" is, of course, important, but of greater importance is our knowledge of dangerous effects and the best means to be employed in avoiding them. It is quite well known that prolonged administration leads to lung complications, to degenerative parenchymatous visceral changes in the heart, liver and kidneys. This has led Bierly and other recent writers to point out the dangers of so-called "acid intoxication" after general anesthesia, and to attribute this condition to the inability of the kidneys to eliminate fatty acids and acetone whose toxic action leads to many postoperative fatalities.

From these and other considerations, for which the scope of this paper is too brief, it is readily seen that statistics as to relative fatalities are necessarily imperfect. Nothing has been said of the condition of patients, as to age, sex, reasons why anesthetics are given, kind of operations and duration of anesthesia. When these factors are considered we come to an endless variety of conditions that render fair statistics impossible. However, large numbers have been grouped. From these some deductions are possible. It appears that of all general anesthetics nitrous oxid is the safest when given with a proper amount of oxygen. Next to this stands ether, with chloroform as the most dangerous.

In McLean and Tazewell Counties, with 100,000 population, there were in three years not to exceed 3,000 anesthetics. This may be much overestimated, and probably is, yet we have against our balance sheet three deaths due to chloroform (1 to 1,000).

It has, of course, been found that the condition of the patient has important bearing upon his ability to bear anesthetics. While it is true that the robust and strong may bear anesthetics well, it is equally true that these very patients give rise to the greatest difficulties. The sick, the enfeebled, will often take the anesthetic quietly, gently and remain undisturbed from unpleasant after-effects.

It is a safe rule that all patients should first be carefully examined,

first as to history of alcoholic, tobacco or opium habits, and previous taking of anesthetics, and for what cause. Then the heart, lungs, veins, arteries, kidneys, urinary secretions, must be tested, including the presence or absence of acetone. There will be a proportion of cases who have been told that they can not take an anesthetic, a proportion of nervous, excitable patients; these persons must be especially watched at the beginning, just at the period when most fatalities have occurred. Valvular lesions, recent pulmonary lesions, nephritis, venous thrombosis, emphysema, are not necessarily contraindicative, but will abjure the administrator to caution. The state of the circulation, capillary and otherwise (arteriosclerosis), must be noted. It is now well known that the manipulations performed during an operation, and the region of the body as well as the particular viscera invaded, all have a most important bearing on the progress of anesthesia. A patient in shock, in collapse, can bear but little and will require but a small amount of anesthetic. The same is true of those with high temperature or if suffering from septicemia, uremia or sapremia. Operations upon the rectum will require profound anesthesia. Patients who have previously been insane may and do sometimes have a fresh attack. In those suffering from diabetes, coma is liable to supervene, and if acetone be present in their urine, as it frequently is, the danger is greatly increased. The urine of such patients also often contains diacetic and oxybutyric acid in addition to acetone, when such is the case the giving of an anesthetic is of course, completely contraindicated.

Extraneous conditions have much to do with success or failure, that is, with the ease and difficulty of effectively giving anesthetics. A cold, moisture-laden atmosphere will favor, noisy, excitable or busy attendants will hinder, while quiet, calm and cheerful confidence will favor rapid and easy anesthesia. Tight clothing and uncomfortable posture will hinder. Clothing or covering should be light, warm and loosely adjusted, while proper posture for the operation is to be assumed after the establishment of full unconsciousness and not during the partial imperfect stage. A faulty position may induce complications and render the progress of the operation difficult. If an operation is to be prolonged, hot-water cushions should be placed under the patient while hot-water bottles are supplied to his bed. The stertor, the stridor, the irregular action of respiratory movements, the acceleration or slowing of the pulse, are not always due to the manner, method and quantity of the anesthetic, as we are apt to suppose, but often to the manipulations of various organs in the progress of an operation. The anesthetist will wisely adapt his methods to the indications presented by these symptoms and so aid materially in the smooth progress of the whole procedure. It is also worthy of note, indeed of paramount importance, to note that hemorrhage, the exposure of large open surfaces, the excitement of important reflexes, the production of certain postures, may singly or combined produce shock during the period of the operation. There may be a sudden entry of air into veins, so much blood may gradually be lost as to produce tachycardia, pallor, coldness of extremities, with pulselessness. Infants, very old persons and anemic patients are more seriously

affected by loss of blood, and in all of these cases the amount of the anesthetic is an important factor. The more hemorrhage, the greater the anemia, the less anesthetic is required. When ether has been given to its limit, when an overdose is approached, respiration will show signs of failure. The pupils will become dilated, the skin dusky or pale, the eyelids slightly separated, the pulse less forcible, and it may be slower. In some cases a modified Cheyne-Stokes respiration will occur and become feebler and feebler. An occluded state of the air passages may be due to pressure from an enlarged thyroid isthmus, from a falling together of the aryteno-epiglottidean folds, or from the tongue pressing against the palate. When such conditions appear they can nearly always be met by successful means. The embarrassments of breathing during the beginning of anesthesia need give no cause for alarm. But later the tongue must be promptly drawn forward and the jaws opened while the anesthetic is for the time withdrawn.

Persons with arteriosclerosis run some risk of cerebral hemorrhage, though this is slight. In fact, the dangers mentioned here, and others, indeed many others, become of serious import only in a few, very few, cases. The careful administrator knows how to observe them and how to meet them when they occur, and so guides his patient safely through. It is the one case in several thousand that causes the trouble and serves to maintain the patients' fear and our own of the results of anesthesia, and it is precisely that case, the one that comes to us once or so in a lifetime, for which we must be constantly on the watch. But the dangers of the general anesthetic are not over when the operation is successfully accomplished and the patient safely in bed. We have no statistics on fatalities that occur then. We have some records of pneumonia, some of increased nephritis, of uremia and coma, and latterly some of acetonuria and acid intoxication. If these cases could be ascertained, arranged and tabulated the mortality from the taking of general anesthetics would be greatly increased.

It may be that this paper has not so far fully emphasized the influence of posture. Strange, but apparently well supported by such statistics as we have, 16 per cent. of immediate fatalities have occurred in operations about the eye and teeth (collected by the Royal Medico-Chirurgical Society). Some authorities attribute the latter fact to the position of the patient's chair, a position in which chloroform or ether should never be administered. During the last ten or twelve years observations on the ultimate effect of general anesthesia have been made which call for serious consideration. These have been made in reference chiefly to nitrous oxid, chloroform and ether. The first may practically be eliminated from the dangerous class in this regard, but ether and chloroform have both been followed by serious symptoms in from a few hours to as late as three weeks after administration. The symptoms are copious, violent and persistent vomiting of material that is sometimes like beef tea dregs, restlessness, screaming, delirium alternating with apathy. Leonard Guthrie of Edinburgh carefully studied these symptoms and after eliminating all other possible causes concluded that the anesthetic was responsible for them.

Brackett, Stone and Low of Boston, in 1904, showed clearly this danger in a paper called "Aciduria Associated with Death after Anesthesia." Their cases attributable to the anesthetic were marked by excessive vomiting, collapse, weak and rapid pulse, an absence of temperature until just before death, cyanosis, restlessness and apathy finally come. In these cases acetone was present in the breath and in the urine. The majority of cases occurred in healthy-looking, robust children, some of whom had operations of a minor character, such as the operation for web fingers. In seven of the operations reported the symptoms did not come on until twelve to twenty-four hours after the anesthesia. The marked postmortem lesion was fatty degeneration of muscles and liver. That this condition might have existed before administration is, of course, possible, but it has been shown by Becker and Bonn that decomposition of fatty antecedents leads to the production of acetone, and that anesthetics are destructive of fatty bodies in the organism. Moreover, Becker and Bonn showed from 1,500 anesthetics with different anesthetics, that acetonuria is usually produced by them. Fatty degenerations of liver and kidneys were usually present in postmortem cases. Scott, Carmichael and Beatty reported cases of delayed chloroform poisoning. They also show that fatty changes in tissue cells are rapidly produced by chloroform and ether, and that it can be so produced in perfectly healthy rabbits in a short time.

Again, Beesly (*Brit. Med. Jour.*, May, 1906) describes delayed chloroform poisoning resulting in so-called acid intoxication. The metabolic and symptomatic disturbances are similar to those described, the ultimate products of which is acetone. Beesly maintains that a certain degree of acid intoxication takes place after every operation in which a general anesthetic is given. He carefully examined the urine of a large number of patients after anesthesia. He found that both chloroform and ether invariably produced a temporary acute acetonuria. This same author states that the danger may be mitigated by the administration of sodium bicarbonate.

Whatever we have thought of the giving and use of anesthetics, and have measured their safety in immediate effects, is thus seen to be in need of revision. We must add to our conclusions in regard to this matter all the possibilities arising from delayed effects and add to the mortality ratio an unknown number. These considerations will lead to more precise methods in administration, to a lessening of the quantity used, to a shortening of the time of administration, and perhaps, wisest of all, to the employment of local methods in all those cases where they may be effectively used.

MODERN SURGICAL TREATMENT OF EXOPHTHALMIC GOITER.*

(A) ITS BASIS. (B) ANALYSIS OF OVER FIVE HUNDRED CASES TREATED OPERATIVELY. (C) CONCLUSIONS.

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CHICAGO.

So as to convey a definite conception of what we understand and of what we mean by the term "exophthalmic goiter," at the onset we will quote two definitions, one from a popular text-book of Practical Medicine, the other from an equally authoritative text-book of Practical Surgery.

(a) "Exophthalmic goiter is an affection, the chief symptoms of which are goiter, exophthalmos, tachycardia and tremor. In pronounced cases other symptoms, chiefly of a nervous nature, are present."¹

(b) Exophthalmic goiter is a disease characterized by an enlargement of the thyroid gland, palpitation and increased frequency of the heart's action, by proptosis, fine tremor and general nervousness.²

By goiter we understand an enlargement of the thyroid gland, which may be symmetrical, involving the entire structure, or which may be partial, as nodules and cysts. Murray³ noticed an enlargement of the thyroid body in 172 out of 180 cases. In five of the remaining cases there has been goiter at an earlier stage of the disease. Kocher (Berne, Switzerland), says that he has never seen a well developed case without a goiter. Mayo (Rochester, Minn.) says that in those cases in which there is an apparent absence of goiter a careful examination will usually disclose a small unilateral or bilateral tumor, which lies deeper but is firmer than normal thyroid tissue. It is not the mere size of the gland which is of importance, but its structural alterations. The enlargement of the gland, according to the same author, is generally uniform. This is contradicted by equally good observers and is contrary to my observations. Thomson⁴ describes severe and fatal cases in which both goiter and exophthalmia have been absent. According to some authors, exophthalmia is entirely absent in about one-fourth of the cases. It is further to be remembered that the symptoms do not appear in any regular order. We must also bear in mind that these symptoms vary in relative degree in different cases. Tachycardia of a permanent character is the most constant symptom of this affection. By tachycardia, we wish to denote a disturbance of the action of the heart which is expressed in increased frequency. The tremor in this condition is rapid and vibratory, there being as many as eight or ten vibrations per second. It is important to remember that any individual symptom of exophthalmic goiter may be inconspicuous, or may be absent, during a part or the entire course of any individual case of the disease.

There are primary and secondary forms of this affection. From an

* Read before the Fifty-seventh Annual Session of the Illinois State Medical Society.

etiological, pathological and therapeutical standpoint, the classification into primary and secondary forms is consistent and valuable. In the primary form, there is a concurrent development of the goiter and of some of the other symptoms characteristic of this affection. In the secondary cases, the symptom-complex of this affection is grafted upon a pre-existing enlargement of the thyroid body. All varieties of goiter, irrespective of size, type or state from simple cysts to malignant tumors, may be associated with the symptom-complex of exophthalmic goiter, and it is further to be noted that, in all the secondary forms excepting those associated with malignant disease, the prognosis of surgical intervention is better than in the primary form both as to recovery from the operation and as to recovery from the disease (Dean Lewis).⁵

In our perusal of the literature, the frequency with which diagnostic errors concerning this affection are made surprised us. It is often thought to exist when absent. Pulsating exophthalmos, a totally distinct malady, seems to have been the most frequent source of error. Many operators do not seem to have differentiated between operations for ordinary goiter and those for exophthalmic goiter, either of the primary or secondary forms. In a discussion on treatment these two conditions must be considered almost separately. Many of the tables that are constantly referred to in literature on this subject are, owing to their diagnostic errors, honeycombed with inaccuracies.

Authors are not in accord, either as to the etiology, or as to the primary pathological cause of exophthalmic goiter; therefore, the treatment most appropriate for this affection is still a matter of discussion.

Owing to the fact that the ultimate cause of this affection is still a matter of speculation, theories have been advanced and have been used and are still used as foundations for apparently appropriate lines of treatment.

The following theories have had, and still have, advocates: (a) The cardiac theory; (b) the compression theory; (c) the sympathetic theory; (d) the nervous theory; (e) the parathyroid theory; (f) the thymus theory; (g) the thyroid theory. We will discuss some of these theories and then adopt as a working basis that theory which is least in conflict with facts.

THE CARDIAC THEORY.

Tachycardia palpitation, thrills and murmurs in the cardiac region, displacement and diffusiveness of the apex beat, increased area of cardiac dulness, due to dilatation or hypertrophy, and other symptoms of a cardiac nature, led many of the early observers such as Parry, Stokes, Graves, Luton, and Beau, to think that the cause of this affection originates or resides in the heart. The cardiac theory is defective because:

1. Those cardiac disturbances that occur in exophthalmic goiter can and frequently do occur independently of this disease, viz.: toxic palpitation and essential tachycardia.

2. They can occur as symptoms in conditions totally distinct from exophthalmic goiter.

3. Cases of exophthalmic goiter occur in which they are absent.

4. The cardiac disturbances met in this affection are not exciting factors. They are due to coexisting or to complicating functional or organic diseases of the musculature or of the various valves of the heart. We must not forget that long continued, excessive, rapid action of the heart may beget organic changes in this organ.

5. In by far the largest number of cases of exophthalmic goiter that have come to the autopsy table, an absence of cardiac lesions has been noted. In some cases, moderate hypertrophy with or without ventricular dilation and endocardial disease was present. The dilatation of the heart has been ascribed to its quick action. The systole of the heart is too short to be complete; residual blood gradually entails overdistension and dilatation.

6. The cure of exophthalmic goiter does not cure any of the coexisting organic cardiac lesions. Kocher reports two cases of exophthalmic goiter coexisting with mitral insufficiency. The symptoms of exophthalmic goiter were cured by a partial thyroidectomy. The symptoms of mitral insufficiency were uninfluenced and persisted. This shows the non-interdependence of the two conditions.

THE COMPRESSION THEORY.

When Tillaux performed his first thyroidectomy for the relief of exophthalmic goiter, he believed that the compression exerted by the hypertrophied thyroid gland on the important vascular and nervous structures at the base of the neck was the determining cause of this disease. His patient recovered from the operation and from the disease, but the explanation which he advanced was erroneous. He later abandoned the compression theory. It has had many and still has a few eminent advocates. It is untenable because:

1. It is hard to understand how unilateral compression (the thyroid enlargement may be unilateral, though it is more frequently bilateral) can cause bilateral exophthalmos.

2. How unilateral enlargement of the thyroid body can cause unilateral exophthalmos of the opposite side of the body as in the cases reported by Panas and by Gros, etc.⁹

3. Why, if compression were the cause, the symptoms bear no relation to the degrees of the thyroid enlargement. It is an acknowledged fact that in some cases of great severity it takes the most precise and painstaking palpation to detect any enlargement of the thyroid gland. The severity of the toxemia in Graves' disease seems to bear no relation to the degree of thyroid hypertrophy.

4. Why, if upon any of the neighboring nerves compression be exerted by the enlarged thyroid gland, the recurrent laryngeal nerves which, by virtue of their anatomical relation, would be the ones involved most frequently, are so uncommonly in this affection the seat of compression paralysis? They are involved far less frequently than in cases of simple goiter, in which paralysis of one or of both recurrent laryngeal nerves has been observed and commented upon quite commonly.

5. Why do not massive tumors at the base of the neck determine

exophthalmic symptoms? Why is it that large parenchymatous or cystic goiters can exist for years and never be productive of or be associated with the symptom-complex of this disease? If compression were a determining factor of this disease, its action would be invariable. Under like conditions, it would produce like results.

6. If the symptoms were due to pressure, they would disappear immediately and completely on the removal of the compressing agent. We know that they do not thus disappear.

THE SYMPATHETIC THEORY.

This theory was advanced by Kobens, defended by Trousseau, Oppenheimer and others. Only a few clinicians now advocate it. Disturbances of the sympathetic system with or without structural change can explain some of the symptoms of this disease. They fail to explain many. Observers of note such as Abadie, Jaboulay, Jonnesco, etc., have looked upon the cervical sympathetic trunk and its ganglia as the primary seat of the disease, as the *fons et origo mali*. In the primary forms of the affection, some have advised, and the last three individuals mentioned have devised and performed operations upon the sympathetic nerves for the relief of primary exophthalmic goiter. Jaboulay, in some cases of primary exophthalmic goiter, performs a bilateral division of both cervical sympathetic nerve trunks. Jonnesco, in the primary forms of this affection, performs a complete resection of both cervical sympathetic trunks, including the upper and middle, and the lower cervical ganglia. The value of these operative procedures has been much contested. The uniformly good results obtained by their originators have not been obtained, nor even been approached, by other equally dextrous and competent operators. Operations on the sympathetic for the relief of the primary forms of exophthalmic goiter have fallen into almost complete disuse, not on account of any difficulty of execution, but because of their therapeutic inefficacy. They have never been advised for the secondary forms of the affection.

Boisson (Thèse de Paris) collected all the cases of exophthalmic goiter that he could obtain up to 1898, for the relief of which an operation on the sympathetic ganglia had been performed. He collected 27 cases and analyzed 23, as the other four, for one reason or another, prove nothing. In these cases there were three complete cures, eight marked improvements and three deaths. His conclusions are: "Successes are rare. In cases benefited it is sometimes one symptom, sometimes another, which is improved, and the improvement is sometimes immediate, sometimes late, sometimes there are relapses in the improvement. Neither by division nor excision, total or partial, have more brilliant results been obtained. From the physiological point of view, all is chaos. There is no relation between the phenomena noted by the surgeons and those observed by the physiologists; the surgical effects are also in discord with one another." Schiff, in his experiments, noted that no effects on the thyroid gland followed the section of the sympathetic cervical nerves.

So many observers have examined the cervical ganglia in this disease

that it is quite impossible to refer to them all. In a certain number of cases, lesions of the sympathetic nerves have been reported. The changes were such as are often found in many other diseases, such as are often found in health. Abadie, one of the most ardent advocates of the sympathetic theory, says: "The nervous sympathetic trunk is neither diseased nor degenerated; its tissue is intact and does not show any lesion." However, he gives no detailed report of observations. Hale White⁹ has shown by a careful series of investigations on patients dying from other causes that variations in the size and in the vascularity of the cervical sympathetic ganglia, as observed by the naked eye, have no significance; that the cellular elements are found in such various degrees of number and integrity, and that the fibrous stroma is so variable in quantity as to prevent any definite statement. He further says: "This evidence (his observations and those of others) seems to me conclusively to show that the lesion is not in the sympathetic nerves."

The only recent observer that has found positive changes in the sympathetic cervical ganglia is Greenfield.¹⁰ The changes which he noted are not characteristic. In two cases examined, he found these ganglia to be swollen, markedly hyperemic and infiltrated with leucocytes.

Degenerative changes in the ganglion cells were present. Ehrlich¹¹ is of the opinion that what degenerative changes have been found in the sympathetic nerve are purely secondary. The only changes which he found were vacuolation and fat droplets. In Temoin's case¹² microscopical examination of the sympathetic cervical ganglia showed nothing definite. Numerous observers of great competence and acuity of observation report negative findings. Achard and Joffroy examined the cervical sympathetic ganglions in four cases of exophthalmic goiters and found them absolutely normal. Ranvier examined one case; his findings were the same. The observations of Marie and Marinesco, of Mendel, of Joffroy and Achard taken in connection with those of Wilks, of Barth and of Dejerine, suffice to convince one that exophthalmic goiter is not due to organic disease of the sympathetic nervous system.

If we assumed that this disease is dependent on a functional involvement of the cervical sympathetic trunk and its ganglia, we could not satisfactorily explain why in the same nerve trunk there is a stimulation of some fibers, depression of others and functional integrity of the remaining fibers. Dilatation of the pupil, which is perhaps the most constant symptom of stimulation of the cervical sympathetic nerve, is notably absent in Graves' disease. The fact that there are no invariable ocular or pupillary symptoms or signs further argues against the primary involvement of the sympathetic as being the cause.

THE NERVOUS THEORY.

This is supported by Sattler, Putnam, Mendel, etc. Owing to its apparent sudden onset, to its frequent occurrence in individuals of the same families, be they ascendants, descendants or collaterals; owing to its far more frequent occurrence in women, and to the fact that the sufferers of this affection frequently belong to neuropathic families in

which cases of epilepsy, hysteria, chorea, or even some form of insanity have occurred, owing to its frequent association with nervous affections of a functional or organic nature, such as hysteria, neurasthenia, tabes dorsalis, syringomyelia, epilepsy, etc., and also to the many nervous manifestations of this disease, such as tremor, general nervousness, mental disturbances, paresis and paralysis, etc. (These patients are almost invariably nervous, capricious, hysterical and poor sleepers.) Many clinicians have been led to believe that this affection is dependent upon either a functional or an organic disease of the cerebrospinal nervous system. If we consider this affection a neurosis, that is, a nervous disease having no demonstrated organic basis, we will have to classify it among such functional nervous diseases as hysteria, chorea, neurasthenia, etc. "We can not so consider it, as we know that this disease is always associated with definite histoanatomical changes in an organ not belonging to the nervous system."

W. Edmunds¹³ and other investigators have found that the nerve lesions of exophthalmic goiter are extremely uncertain. In those cases where changes in the nervous system existed the lesions found vary considerably in the different cases, though definite enough in each case. The lesions are inconstant, are not characteristic. We acknowledge that many of the symptoms clearly show that the normal functions of the nervous system are deranged, but similar disturbances occur in other toxemic states, in other intoxications, and, in the absence of their constant presence in every case of exophthalmic goiter and of the constant association with some organic lesion of the nervous system they can not be adduced as evidence of a nervous cause of the disease. No constant change in the peripheral nervous system has been noted. Mueller and several other observers have occasionally found changes in the pneumogastric and in the recurrent laryngeal nerves; a few degenerate fibers being present in these nerves. As a rule, however, these nerves have been found normal. Mueller decided that the degenerative changes in the vagus nerve were secondary. Sir Victor Horsley noted in his experiments that the division of the recurrent laryngeal nerves was without effect on the thyroid gland.

In those cases where the disease has coexisted with an organic disease of the spinal cord, such as tabes dorsalis, at the postmortem table, there will be found the anatomical changes characteristic of that organic disease. In the cases of exophthalmic goiter not complicated by an organic spinal cord disease, there is noted in the spinal cord a total absence of demonstrable changes.

Exophthalmic goiter is not due to a constant and characteristic nervous lesion, demonstrable in every case. Postmortem observations teach us that in most cases of this disease there is a total absence of anatomical lesions in the cerebrospinal and sympathetic nervous systems, that is, of such lesions as can be revealed by our present methods of examination.

THE PARATHYROID THEORY.

Not much is known concerning these bodies. A great deal of specula-

tion concerning their functions, and also concerning the results of pathological changes in them, has been indulged in. They are four in number, two on each side. They contain no follicles, no colloid substance and are composed of epithelial cells. It has been suggested by some (Edmunds, MacCallum) that exophthalmic goiter might be dependent upon the absence of the glandulæ parathyroidea, or upon functional or structural disturbances present in one or more of them. We can not for the time being adopt the parathyroid theory as a working basis, because:

1. Our knowledge concerning the physiology and pathology of these glands is as yet too limited.

2. Parathyroid therapy is useless in this affection. Walsh¹⁵ came to the conclusion that there are no grounds for the idea that insufficiency of the parathyroid plays an important part in Graves' disease.

3. The changes that have been found in some parathyroid bodies removed from exophthalmic goiter patients have also been noted by Walsh, Humprey, Berkley and MacCallum, after death from other diseases.

4. In nine cases of exophthalmic goiter in which the parathyroid bodies were examined microscopically by MacCallum,¹⁶ they were found practically normal, there being at most, in a few of the cases, only a slight diminution in the size and an increase in the fibrous stroma.

Shattuck examined microscopically parathyroids obtained from exophthalmic goiter patients. He found nothing abnormal in them. Ben-jamine¹⁷ examined the glandulæ parathyroidea in sixteen simple and three Basedow's goiters, without finding any noteworthy change. "I have had opportunity to examine about 100 presumably normal parathyroids collected by Dr. D. Ferguson and Dr. Rogers in this laboratory (Cornell Univ. Med. Dept.) and find that the variations in structure of the glands and in the integrity of the cells cover a range rather greater than that reported by most observers and quite as extensive as that so far observed in Graves' disease." (Ewing).

THYMUS THEORY.

This theory as an explanation of exophthalmic goiter was suggested by the following facts:

1. In some of the cases of exophthalmic goiter that have come to the autopsy table, this organ was found to be hypertrophied. Dinkler, Joffroy, Soupault,¹⁸ Möbius, Speneer, Marie and other authors have commented upon this marked hypertrophy, and have noticed that it is most always associated with great vascularity of the organ. In one of Shepherd's cases (*Jour. Am. Med. Assn.*, 1906, vol. xlvii, p. 667) not only was the thymus gland enlarged, but also both suprarenals showed excessive enlargement.

2. Some cases apparently have been benefited by the use of thymus gland substance, or of some of its preparations.

Our non-acceptance of this theory is based on the following facts:

1. Our knowledge of the physiology and pathology of the thymus

gland is as yet too limited. Very little is known concerning the functions of this organ.

2. Thymus therapy, in the opinion of by far the greater number of clinicians, is useless in the treatment of exophthalmic goiter.

3. Exophthalmic goiter occurs in the absence of hypertrophy of the thymus.

4. Hypertrophy of the thymus occurs in the absence of exophthalmic goiter.

5. The thyroid theory offers a far better working theory.

THYROID THEORY.

Though it has not been demonstrated beyond scientific contradiction that in the thyroid gland is to be found the sole primary cause of the disease, we are believers in the thyroid theory because:

1. There is present some structural alteration of the thyroid body in all cases of exophthalmic goiter. This applies to the secondary as well as to the primary forms of the disease. Most of the recent observers have come to the conclusion that the histology of the thyroid gland in primary Graves' disease is in many respects specific.¹⁹ "We must not conclude that because we can not detect any enlargement that, therefore, the gland is not diseased; it always is."²⁰

2. Because exophthalmic goiter is the direct opposite of myxedema in symptomatology, in pathology, and in therapeutical indications.

3. Because the symptomatology of this disease can, to a certain degree, be determined by the ingestion of large doses of thyroid gland substance or of its various preparations.

4. Because all medical or surgical measures which tend to decrease the functional activity, or lessen the volume of the gland, also tend to lessen the severity of the symptoms or to arrest them. Sehultze says: "Clinically, it makes no difference whether the secretion of the gland is increased or altered, or is altered chemically as the result of changes in the blood, in the alimentary canal, or in the central nervous system, the fact remains that the removal of the growing gland does away with the symptoms, and upon failure to remove the diseased glands depends the failure to cure." Incidentally we may say that the surest and most efficacious way of reducing the volume of the thyroid body is by removing a portion of it.

5. Because in the cases which we have collected and which we report, recovery from the disease, in rapidity and completeness, has been in proportion to the extent of gland tissue removed, short of its entirety.

6. In those cases where the symptoms recurred, recurrence was associated with and seemed to be dependent upon hypertrophic changes in the remaining portion of the gland. Recovery should be secured by a second operation, and was secured in those cases that submitted to a secondary operation.

7. Because the symptom-complex of this affection finds its most satisfactory and its most consistent explanation by considering the condition a general toxemia, the result of quantitative or qualitative

changes, or both, in the secretion of the thyroid gland. The tachycardia, the mental changes, the sweating, the prostration, the increase of body temperature, the diarrhea, are all symptoms that we find in other intoxications. It is perfectly possible for the gland to show a great hyperactivity without actual enlargement, as, for example, the salivary gland in a state of salivation.

The anatomical changes noted in the primary and secondary forms of this disease are unlike, so unlike that they of themselves make imperative the classification of the disease into primary and secondary forms.

In the secondary cases, we agree with Dean Lewis,⁵ when he says that the goiter in the secondary forms does not differ in structure from the simple parenchymatous, or other goiter, upon which the Basedow's symptom-complex is grafted. Exophthalmic goiter has been observed in simple goiter, in fetal adenomata, in cysts, and in carcinoma of the thyroid gland (Bloodgood, Ehrhardt). It has been thought that small tumors of the thyroid gland, the seat of secondary Graves' disease, act as irritants, causing an over-activity of the gland, much as a foreign body in the eye will produce an excessive secretion of tears, and the removal of this source of irritation by operation has been followed by a complete relief of the symptoms.

In the primary form of Graves' disease, definite pathological changes are constantly present in the thyroid gland. Kocher and Reinbach, Brissaud and Langhans, have denied the above statement, but the existence of these changes has been confirmed by so many competent observers that their occurrence can no longer be contested (Greenfield,¹⁰ Askarnazy, Soupault,¹⁸ Haemig, Aubarsch, MacCallum²² and Ehrhardt).

In 28 primary cases of exophthalmic goiter, MacCallum found changes present in the thyroid gland in each instance, although all the glands and all parts of the same gland were not equally involved in all the cases. It is well to bear in mind that changes may occur in one portion of the gland and be absent in another. Dean Lewis examined carefully the thyroid gland in four cases of primary exophthalmic goiter, and his findings agree practically with those of Greenfield, Edmunds, MacCallum, etc. What are these changes which are considered as constant and almost characteristic?

1. Changes in the follicles which are increased in number and which are also changed in size and form. Instead of appearing round or square, when examined microscopically, they appear branched and stellate. Dr. Rodocanachy²² noted an increase in the number of alveoli, proliferation of the epithelium and changes in its character. These presented the appearance of a gland which is working at high pressure. We find an increase in the secretory tissue, for the number of alveoli is increased and the epithelial cells themselves, instead of being cuboidal, are columnar. Dean Lewis says: "It seems as if the proliferating epithelium, following the lines of least resistance, had grown into the follicles. The connective of the follicle is also invaginated so that in many sections the invaginated epithelium with its connective tissue stalk resembles an intestinal villus." In other parts of the gland, the follicles are unusually small.

Many of the follicles contain desquamated epithelial cells. The secreting area of the vesicles is increased by ingrowths from their walls.

2. Changes in the character of the epithelial cells. The cells are changed from the cuboidal to the cylindrical, columnar type. The epithelial proliferation may be so great that alteration of the shape of the cells results from mechanical pressure (Edmunds). Many of the cells are in a state of fatty degeneration (Virchow).

3. Qualitative and quantitative changes in the colloid. The colloid is greatly diminished in amount; it may be absent. This change, however, also has been noticed in the thyroid gland of patients dying from other diseases. Some of the vesicles, instead of containing colloid, are filled with cells. Is this disappearance of colloid due to lessened secretion, or does it result from more active removal by the lymphatics? That is still an unsettled question.

4. Increase in the vascularity. The blood vessels are distended and are increased in size; the friability of their walls has been noted and commented upon by many operators (Kummel, Kocher, Mayo). This friability increases the liability to primary and to secondary hemorrhages. In this, as in all other hyperplasia, the enlargement of the nutrient arteries is very evident. No adequate idea of the vascularity of the gland is gained from inspection of the specimen after death, but at operation it is found to be extraordinarily rich in widely distended vessels. This is especially noticeable in the veins.

5. Changes in the connective tissue. There is an increase in the amount of connective tissue. In some cases this increase in connective tissue causes a lobulated appearance of the tumor. The fibrous septa of the gland may show some thickening at a comparatively early date. All the above mentioned histological changes may exist in small foci and not throughout the entire gland. Probably this explains why, in some instances, they have escaped the observation of investigators.

CONTRAST EXISTING BETWEEN EXOPHTHALMIC GOITER AND MYXEDEMA.

The thyroid is an organ essential to the integrity of the human organism. In the absence of accessory thyroid gland or glands, the spontaneous or gradual arrest of function of this body, or its total destruction by disease, or its ablation by the surgeon, will almost, if not invariably, be followed by myxedema either acute or chronic in type. Postoperative tetany and myxedema are identical, as far as their etiology is concerned, one condition often develops into the other (von Eiselsberg).¹ Tetany, it would seem, according to the latest investigations, is a condition of parathyroid insufficiency. Mayos (Rochester, Minn.), to avoid removing all the glandulæ parathyroidea, save the posterior capsule of the thyroid gland. They also lessen thereby the liability to injury of the recurrent laryngeal nerve.

The development of impending myxedema can be prevented, its manifestations controlled either by the successful transplantation of thyroid tissue in another part of the body, or by continual injections of thyroid (Vassale) or by prolonged feeding of thyroid gland (Lanz, Can-

ter).²⁴ The above facts are accepted as proofs that myxedema is a disease due to insufficiency or to absence of normally functioning thyroid tissue in the system.

The demonstration of the fact that in exophthalmic goiter we have a disease which is the diametrical opposite of myxedema in symptomatology, pathology and therapeutical indications, will aid to give credence to the thyroid theory. Let us consider the evidence that contrasts the two diseases as to the

ESSENTIAL SYMPTOMS.

Exophthalmic Goiter.

1. Enlargement of the thyroid gland (almost always present).

2. Exophthalmos (a cardinal symptom).

3. Frequent presence of other ocular symptoms as von Graefe's, Dalrymple's, Stellwag's Jellinek and Rosin's, Gifford's,²⁵ etc. Eye symptoms are of great diagnostic value, chiefly by way of confirmation.

4. Excitable and mobile pulse, palpitation, tachycardia. Permanent tachycardia is more commonly met in exophthalmic goiter than in any other affection.

5. Exophthalmic goiter tremor (cardinal symptom). Murray noticed tremor in 111 cases out of 120.

6. Agitation, insomnia, irritability, excitability. A peculiar mental condition of nervousness is a symptom common in exophthalmic goiter.

7. More or less profuse perspiration. Skin fine, soft, moist and warm. Feel better in cold weather. Diarrhea frequent.

8. Typical myxedema may supervene on the subsidence of an equally typical exophthalmic goiter.

Myxedema.

1. Atrophy or absence of the thyroid gland (is mentioned in all the reported cases).

2. Recession of the eyeball not uncommon. In cases not consecutive to exophthalmic goiter, exophthalmos is never present.

3. Absence of ocular symptoms.

4. Sluggish heart action. Bradycardia, a common symptom.

5. Myxedema absent, except in its rare occurrence in tetany.

6. Apathy, somnolence, dulness of apprehension and of perception.

7. Absence of perspiration even in the warmest weather. Myxedematous skin. Patients always feel cold. Constipation common.

8. Myxedema never precedes exophthalmic goiter.

AS TO PATHOLOGY.

Exophthalmic Goiter.

1. Glandular hyperplasia, increase in number of follicles.

Myxedema.

1. Follicles are markedly diminished in number; may be absent. In cases where gland is not absent, there is noticed a progressive glandular atrophy.²⁶

AS TO THERAPEUTIC INDICATIONS.

Exophthalmic Goiter.

1. The ingestion of thyroid preparations is almost always harmful. It aggravates the symptoms.

Myxedema.

1. The continual ingestion of thyroid preparations is positively curative.
2. All the measures which tend to lessen or diminish the amount of thyroid secretion are followed by improvement.
2. Implantation of gland tissue if the latter maintains its integrity is curative.

The symptom-complex of this affection can to a certain degree be determined by the ingestion of large doses of thyroid gland substance, or its various preparations. Our knowledge of the physiological action of thyroid gland substance, or its preparations, is still limited. Tachycardia and increased metabolism constantly result from their ingestion. Toxic doses will cause such symptoms as rise of temperature, insomnia, agitation, polyuria, albuminuria, complete paraplegia, etc., etc.

These symptoms we meet also frequently in cases of exophthalmic goiter. The fact that the symptom-complex of this affection can be experimentally determined, produced by the ingestion of thyroid preparations, is no longer contested. In our opinion, it forms another important link in the chain of evidence supporting the thyroid theory.

Cunningham administered daily, by mouth, to a rabbit 1 gram of thyroid extract; it caused exophthalmos. Lawford has reported one case of exophthalmos due to thyroid feeding. Edmunds²⁷ found that feeding dogs and monkeys large amounts of thyroid substance could bring on exophthalmos, tachycardia, loss of weight and wasting. Murray²⁸ obtained similar results. Nothaft²⁹ reports a case of a patient who took 1,000 five-grain tablets of thyroid extract in five weeks. He developed all the symptoms of exophthalmic goiter; upon cessation of the drug, all symptoms promptly disappeared, with the exception of the struma and exophthalmos, which persisted for six months and then gradually disappeared. Doyen performed a partial thyroidectomy in a case of exophthalmic goiter; cure resulted. For some reason or other the patient took some tablets of thyroid extract, the symptoms recurred. With suppression of the drug, the symptoms subsided. Béclerc³⁰ observed the development of the symptom-complex of this affection in a myxedematous woman, who had taken at the beginning of the treatment 92 grams of thyroid extract in 11 days. The drug was discontinued, the symptoms disappeared.

SUMMARY.

Kurt, Schultze, Kocher and the Mayos (Rochester, Minn.) have analyzed their respective cases and we will merely cite their results, for which the reader is referred to their publications. Their combined cases make a total exceeding 270. Since the completion of 1906 the Mayos (Rochester, Minn.) have operated on 100 additional cases with increasingly felicitous results.

A critical analysis of the other reported cases, the authenticity of each of which has been verified by reference to the original report when accessible (when not to a reliable report), taken in connection with a study of the voluminous literature of the subject, has convinced me that the following conclusions are justified:

1. Thyroid gland substance, or any of its preparations, should never be administered in the treatment of exophthalmic goiter. Their use in that disease is irrational, and is almost invariably attended by an aggravation of symptoms.³³ Their use invariably increases the dangers of operative interference. Kocher: "Even patients suffering from simple goiter have an especial susceptibility to thyroid extract."

2. As a therapeutic agent in the treatment of exophthalmic goiter, thymus gland substance and its various preparations are useless. Their use is at times attended by an aggravation of symptoms.^{33a} They can not be considered curative agents.

3. Parathyroid extract as a curative agent of exophthalmic goiter has no efficacy (J. J. Walsh).¹⁵ MacCallum¹⁶ says that the alterations noticed in the glandulæ parathyroidea do not seem to be constant or sufficiently extensive to support the idea that the parathyroids have anything to do with the development of the disease known as exophthalmic goiter.

4. The medicinal treatment of the disease which we are considering is, the use of belladonna being excepted, in reality, largely symptomatic. For the anemia, arsenic has been given; for the nervousness and restlessness, the bromids; for the tachycardia, digitalis, strophanthus, etc. All of these agents are palliative, not one has ever proven to be always curative. Some cases are benefited by medicinal treatment. Some cases recover spontaneously. All forms of medical treatment of this affection, be they hygienic, dietetic, medicinal, organotherapie or electrical in nature, are very frequently unsatisfactory, are very frequently disappointing. Their comparative powerlessness has induced surgical endeavors to cure the disease. There is not any form of medicinal treatment which has been successful with sufficient frequency to carry conviction of its worth. "Out of 40 cases medicinally treated, in which the patient was seen from time to time, or information obtained as to the nature of the disease, 7 died, 2 remained stationary; out of the other 31, only 9 practically recovered" (Murray).²⁸ Cases are reported in which it is definitely stated that the various forms of medical treatment were of no avail.³⁴ All of these cases were ultimately subjected to operation. One case^{34e} died of "acute thyroidism." In all the other cases, operation was followed either by amelioration of symptoms or by complete cure.

5. Serum therapy of exophthalmic goiter is as yet in an experimental state. The various sera may be considered as palliative remedies. The results attending the use of "thyroidectin" are not invariably satisfactory. Miller,³¹ Billings³¹ and others have had failure attending its employment. Their use is not devoid of dangers. In some of the cases reported, after failure attending the use of thyroidectin, partial thyroidectomy was followed by cure (Hecht, Ries, Rogers).

6. It is now a demonstrated fact that all operative measures which tend to lessen the secretory activity of the thyroid gland or to diminish the amount of thyroid gland tissue present in the organism, are of value in the treatment of exophthalmic goiter. That method must be chosen which at the time seems the least dangerous without sacrificing chances of success. In one case^{34a} caustics were injected into the gland to induce necrosis of a part of the parenchyma. This procedure is not to be recommended, owing to its inherent dangers. In this case, however, Jones obtained a cure. Ollier³⁵ injected tincture of iodi into the thyroid gland. He obtained a permanent, almost a complete, cure. Intraglandular injections are unsafe in exophthalmic goiter. There is danger of sepsis, of injecting the irritant agent into the blood vessels, of provoking alarming hemorrhage into the gland (alarming through the compression that it may exert upon the respiratory passages).

The ligation of the thyroidal arteries in this disease was first recommended in 1886 by Woffler. It has been practiced by operators of such eminence as Roux, Rydigier, Kocher, etc. It is now used only as a preliminary or as an accessory step to partial thyroidectomy. In a number of cases³⁶ two or more of the main thyroid arteries were ligated. In one case^{36a} there was immediate improvement following the ligation of the four arteries. Patient, nevertheless, died from relapse two months after the operation. All the other cases, excepting one,^{36h} were either permanently improved or permanently cured. This case,^{36h} in whom both superior and inferior thyroid arteries also had been ligated, died six months after the operation from some unknown cause. The ligation of the four thyroid arteries is liable to determine gangrene of the thyroid gland, is liable to induce thyroid insufficiency. This has occurred to such an authority as Kocher (see Kocher's cases).³⁷ Rydigier and Trendelenburg have each had cases of acute tetany follow ligation of the four vessels. Hence it is not to be performed. Kocher does not do it any more, as he fears that cachexia strumaprima may follow its performance. The objections to the ligation of two or three of the thyroid arteries as a routine treatment of exophthalmic goiter are the following:

a. It is a procedure often difficult of execution, the hypertrophied thyroid gland having altered the anatomical relations of the part; the infiltration of the tissues also adds to the technical difficulties. The

NOTE.—By serum therapy of exophthalmic goiter is meant the employment of either (a) the serum of thyroidectomized animals or (b) the serum of animals treated with increasing doses of thyroid extract, or (c) milk in the dried or liquid form, of thyroidectomized goats. With the use of these different sera, authors report failures and successes.

ligation of the vessels is especially difficult in the retroclavicular or retro-sternal varieties of goiter.

b. Owing to the greatly increased vascularity of the organ, branches of the thyroid arteries are liable to be mistaken for the trunks of the vessels.

c. It does not secure as complete or as permanent mitigation of the symptoms as partial thyroidectomy, and it is, we believe, equally difficult to perform. Ligation of the inferior thyroids is just about as serious a matter as thyroidectomy. Dressman states that improvement is slower after ligation of vessels than after operative treatment on the gland.

d. Exothyropexy for exophthalmic goiter has been performed with varying results. In one case⁴³ recovery from the operation and from the disease occurred. This operation has been termed "unfinished partial thyroidectomy." Poncet (Lyons) reports cures of exophthalmic goiter treated by exothyropexy which are not included in our bibliography. Mikulicz was of the opinion that ligation was more difficult, more dangerous and less efficacious than resection of the struma.

Ligation of the vessels and partial thyroidectomy was performed in one or in several sittings in nine cases.³⁸ There were no deaths and all the cases recovered either partially or completely from the disease.

Total thyroidectomy was performed for this affection thirteen times.³⁹ One case^{39h} died of pneumonia; the left recurrent laryngeal nerve having been included in a ligature. All the other cases recovered, either markedly or completely, from the disease. In a certain case^{39f} myxedema developed. Upon the ingestion of thyroid extract, all symptoms of thyroid insufficiency disappeared. One case^{39e} was a sarcoma of the thyroid. This patient died after a time from general sarcomatosis. He had recovered from his exophthalmic goiter. In the absence of accessory or aberrant thyroid bodies, total thyroidectomy is very liable to be followed by cachexia strumipriva. This explains why the operation is no longer performed by those that know. Postoperative myxedema can always be controlled by the administration of thyroid extract.

Partial thyroidectomy was performed in over 40 cases of the secondary form of exophthalmic goiter. There was not a single operative death in this series. In all the cases but one, there was either marked or complete improvement.⁴⁰ One case^{40cc} died several months later from exhaustion consequent on an empyema.

Partial thyroidectomy was performed in over 162 cases of primary exophthalmic goiter. There were eleven deaths in this series. All the other cases made either moderate, marked or complete recoveries. Of the eleven deaths, one^{40u} occurred on the operating table; one^{40cc} as a result of very free operative hemorrhage; four⁴¹ from acute thyroidism; two⁴² from acute influenza; the former two months after the operation, the latter ten days after. In the other cases the cause of death is not stated with sufficient detail. In one case^{40a} a tracheotomy had been performed three weeks before the operation.

Partial thyroidectomy is as yet the most satisfactory operation for performance in all cases of exophthalmic goiter, be they primary or

secondary in type. In cases that survive the operation it is invariably attended by marked alleviation of symptoms, in many instances by complete and permanent cure. Kocher is of the opinion that partial resection and ligation of the vessels is the most rational procedure. He first ligates the two superior thyroid arteries. This, in his opinion, is easy of execution and makes the subsequent work easier. He then ligates one inferior thyroid artery before extirpating the gland. No more thyroid tissue need be left *in situ* than is present in the normal organism, that is, from 30 to 60 grams. The surgeons that have, for the cure of this disease, removed the largest quantity of thyroid tissue short of its entirety are those that have obtained the very best results, both from the standpoint of the number of recoveries as well as from the standpoint of completeness and of permanency of recoveries. If not enough gland tissue is removed, the maximal benefits are not derived from the operation, as in Ehrlich's¹¹ and other cases. Friedheim (Hamburg) is of the opinion that in the cases in which only an improvement has been noted there is still too much gland left behind. A small amount of glandular tissue is all that is required to maintain the ordinary nutrition of the body. If too much is removed, thyroid insufficiency may develop.^{3&f} When the thyroid gland is not totally removed the possibility of postoperative myxedema may be said not to exist. Kocher met it only once in 1,000 operations for goiter. In this case he removed half the gland, the remaining half atrophied. The symptoms disappeared following the administration of thyroid extract.

7. The secondary forms of exophthalmic goiter, when subjected to partial thyroidectomy, almost invariably recover from the operation and from the disease.

8. Operators disagree as to the most suitable anesthesia for these cases. All the anesthetic agents have their partisans. Fatalities have occurred with all of them. General anesthetics have the disadvantage of increasing the cardiac insufficiency and of frequently being followed by cough which may induce secondary hemorrhage, by vomiting which may soil and infect the dressings on the wound. Kocher recommends local anesthesia; he never operates singers, for goiter, under general anesthesia; the Mayos (Rochester, Minn.) employ general ether anesthesia in almost all their cases. They are very partial to the use of ether as a general anesthetic in these cases. Kummell uses oxygen-chloroform. Kurt, Schultze and Riedel have seen an acute bronchitis follow operations for exophthalmic goiter in which only local anesthesia had been employed. According to Professor Fenger, the degeneration of the heart muscle will account for some of the sudden operative deaths, while the absorption of thyroid, shock, anemia and general nerve exhaustion will account for most of the other deaths that are not due to the anesthetic. One of the most potent causes of death after operation is a weakened heart muscle. Kocher, as a result of his enormous experience, believes that we can say that partial thyroidectomy can be performed without danger

provided the heart is sound, careful hemostasis obtained and the wound is drained. Drainage is essential.

9. The dangers of partial thyroidectomy in exophthalmic goiter are either avoidable, such as infection and hemorrhage, or unavoidable, such as "acute thyroidism." This latter, also called "thyroid fever," is liable to occur after the observance of all precautions now known to us. We do not yet know how to prevent nor how to cure "acute thyroidism." It is not always fatal. Free drainage of the operative wound is our most serviceable weapon for combatting this complication. Also valuable in this respect is the careful handling of the stump and of the thyroid gland at time of operation. The nature of the anesthetic and that of the operation seem to have little influence in its production. "In operations on these cases (exophthalmic goiter) there are certain inherent dangers that no amount of cleverness can avert" (Mayo).³² All Basedow's patients seem very sensitive to surgical operations. In the cases of postoperative "acute thyroidism" that have proved fatal, there was a sudden rise of temperature to 105-106 F., a very rapid pulse, extreme excitability and restlessness with great anxiety and distress, profuse sweating and, finally, collapse and death from heart failure. The most reasonable explanation for this series of symptoms is a sudden poisoning of the entire system by an excessive absorption of thyroid juice suddenly produced during the operation. Avoid crushing of thyroid body and escape of its secretion in operative wound.

10. There is no doubt that the mortality is greater in bad cases than when the symptoms are slighter and the patient in better condition. Early operations give the best results. They give a lower percentage of deaths and a very much higher percentage of cures. Exophthalmic goiter tends to diminish vital resistance and to exhaust the nerve centers; hence operate before the patient's vitality has been lowered by chronic thyroid intoxication. Kocher lays great stress on the avoidance of the development in all cases of goiter of what he called the "thyroid heart." This, he asserts, can be acquired either by waiting too long for surgical intervention or by excessive iodine or thyroid extract therapy. He assures us that the prognosis in Basedow's disease will be much better in the future if the operation is done early. In Schultze's cases²¹ all deaths but one occurred in patients in whom the cardiac conditions were bad. The condition of the cardiovascular system is in this affection an important element in determining the outlook of the case. This is one of the reasons why the vessels should be well secured and the nurses in attendance instructed to watch for evidences of secondary hemorrhage. In very severe cases, successive operations at different sittings can be done with benefit to the patient. This is well exemplified in some of Kocher's cases.²⁷

11. Operative points:

a. It is well to prepare patients for some time, to observe them and to better estimate their ability to withstand operation. Before operation all cases should be examined with the laryngeal mirror to determine whether one or both laryngeal nerves are compressed by the thyroid

growth. The most rigid aseptic precautions must be observed to avoid infections: mediastinitis, deep phlegmon of the neck, thrombophlebitis, septicemia, etc.

b. Use the inverted Trendelenburg position. Put the neck in that position which makes the goiter most accessible and which interferes least with respiration. A hard round pillow is put under the neck.

c. Kocher's transverse convex incision allows of a complete exposure of both lobes. From an ultimate cosmetic standpoint, it is the best, as the usual neckwear will hide the scar. If it is necessary to make a section of the sternohyoid and the sternothyroid, the Mayos advise that this be high, so as to preserve the nerve supply to these structures. After extirpation of the tumor, divided muscles should be sutured. The saving of the posterior capsule protects, in the opinion of the Mayos, against many of the dangers of partial thyroidectomy. The saving of the posterior capsule, among other things, lessens very much the liability to total parathyroidectomy. According to Segale (*Achivio per le Scienze Mediche*, Turin, 1907), after parathyroidectomy, such profound disturbance of the metabolism occurs that all efforts on the part of the organism to repair are absolutely ineffectual. After completion of operation, the cutaneous wound must be sutured accurately. Drain through an opening made below this wound.

d. Hemostasis must be perfect. Do not depend on temporary compression to arrest the bleeding. It is deceptive. When possible tie the blood vessels. It is preferable to leaving clamps in position. Clamps interfere with healing of the wound.

12. Recovery from all the symptoms is neither immediate nor simultaneous. The first symptom to subside is the tachycardia. The tremor and the nervous and psychical symptoms also disappear quickly. The total disappearance of menstrual disturbances is of good prognostic omen. It takes months for the entire beneficence of the operation to become manifest. In many cases the improvement is slow in becoming apparent; for instance, in one case,¹¹ slight, if any, improvement was present at the expiration of nine months. The betterment began and gradually increased so that at the end of four years it was complete. The exophthalmos is the last symptom to disappear. Albert Kocher says that a total disappearance of exophthalmos can only be expected in those cases in which the operation is performed early. Eye symptoms disappear in the majority of cases, quickly and completely, irrespective of persistence or disappearance of exophthalmos. The longer the period of observation after the operation the better appear the results.

13. When after a partial thyroidectomy the symptoms recur, the recurrence is most frequently associated with a hypertrophy of the remaining portion of the gland.⁴⁴ Removal of a portion of this will bring about a cure.⁴⁴ In one case,^{44c} after a second operation, symptoms of tetany appeared, but disappeared completely after ingestion of thyroid extract.

14. Partial thyroidectomy is indicated:

a. In all cases of secondary exophthalmic goiter.

b. In all cases of primary exophthalmic goiter:

(*a*) When after three months of well-conducted, appropriate medical treatment the patient's condition is not markedly improved.

(*b*) When the goiter compresses or distorts the trachea, or the esophagus, or both,⁴⁵ as long-continued dyspnea is very liable to beget pulmonary emphysema.

(*c*) When tachycardia is marked;⁴⁷ long-continued and excessive tachycardia is very liable to beget organic heart changes.

(*d*) When exophthalmos is so marked as to prevent complete closure of the lids during sleep.⁴⁶ Kocher and others report cases where patients lost their eyesight through ulceration of the cornea secondary to marked exophthalmos.

(*e*) If the patient is losing strength.

(*f*) In all acute cases that seem like a sudden intoxication of the body by thyroid, even when no marked enlargement of the thyroid body can be demonstrated (Rehn, Nonne, von Eiselsberg).

15. Surgical treatment of exophthalmic goiter is justified by theory and by facts.

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FEBRUARY, 1908.

THE CHARITABLE INSTITUTIONS OF ILLINOIS.

In some respects it was a fortunate accident that resulted in the serious burning of a feeble-minded child from Chicago on an unprotected radiator at the Asylum for Feeble-minded at Lincoln. It has served to bring public attention to this and other institutions for the care of the mentally defective and mentally diseased which, for, lo! these many years, have been so conducted as to be a disgrace to the state. A reorganization of the whole system from top to bottom is necessary, and we hope public interest will be so aroused by recent developments that it can no longer be delayed.

We approach the discussion of this subject with the greatest hesitation, for it is, in the first place, a large and growing proposition. Again, our motives may be impugned and, even though we may write with the very best intention and with possibly a little more knowledge on some phases of the subject than many a one not intimately connected with this sort of work, still our view may not be comprehensive enough to do the subject justice. Again, events are moving so rapidly that what is said to-day may appear from later developments not quite apropos when printed some days afterward. We shall confine our remarks this month almost entirely to the Lincoln institution.

The charitable work of this state began in 1839, twenty-one years after the admission of the state, when the School for the Deaf was created and located in Jacksonville. In 1847 what is now known as the Central

Hospital for the Insane was created and also located in Jacksonville, and two years later the School for the Blind was also located in the same city. Early in the history of the School for the Deaf, mentally defective children were presented for care and instruction, and finally these became so numerous that some provision had to be made for them by Superintendent Gillet and the generous citizens of Jacksonville, and for some time before the legislature erected a separate institution they had been taken care of at the School for the Deaf in this manner. Finally, in 1865, the fourth state institution, that for the feeble-minded, was created and located in the former residence of Governor Duncan. The trustees of the School for the Deaf, among them Dr. Robert Boal of Peoria, were made responsible for the new institution. Soon Dr. C. T. Wilbur of Massachusetts, a brother of Dr. Harvey M. Wilbur, a pioneer worker in this field, was placed at the head of the school and it grew rapidly. About 1875 the General Assembly appropriated a considerable sum for the erection of a large building, but with a vicious provision that the institution should be sold to the community offering the largest price. The law did not read that way, but that was its effect, and for this reason Jacksonville, the city particularly fitted for it; that had voluntarily contributed so much for it, and the logical situation for the new institution, was rejected; and Lincoln, then a community of about 5,000 souls, was chosen. The building was finally finished and the children transferred in 1877. At that time the "Institute," as it is locally known, was the big thing in the town, and it remains to this day the most talked-about entity in the Logan County capital. Here is where the troubles of the asylum began, and they have never ceased from that day to this. Superintendent Wilbur was a typical Yankee, sharp and close in a bargain, and in many ways a valuable officer for the State, and the asylum was conducted in the most economical manner. Dr. Wilbur was also interested in his work and undoubtedly conducted a high-grade institution. His wife, Mrs. Leila Burgess Wilbur, was a human angel and worked night and day for the welfare of the unfortunate inmates. The writer, a medical student in 1877, resided in the institution for three months, worked hard, received no pay, and finally, deciding that he did not care to undertake that sort of a specialty, left to attend a medical school.

This experience enabled him to appreciate something of the work of the institution.

It was then possible to make some selection of the applicants and conditions were much better than they afterward became. Notwithstanding the excellence of the work at the institution, Wilbur soon fell into disfavor among the citizens, and more especially the politicians, and was displaced by an unfriendly board and a Dr. Fish installed. Fish was probably much inferior to Wilbur, but the latter unfortunately took his dismissal greatly to heart and rushed into print and exposed his own weakness, while he probably told a great deal of truth about the cause of his dismissal.

From that day, 1883, to this, we have frequently heard some one abuse the institution. Politics soon gained complete control and the asylum became the dumping ground for all sorts of mentally defective children, some of the children being above 40 years of age. Epileptics are there by the score, by what right God only knows, for the real intent and purpose of such an institution is supposed to be not eustodial, but to educate and train the mentally weak. The last report available shows that of the 1,400 inmates only about 800 were capable of receiving the mental or manual training designed to be taught at such an institution. There were nearly 400 epileptics and there were several hundred low-grade imbeciles wholly eustodial.

Dr. Fish remained in charge of the asylum from 1883 to 1892, when Governor Altgeld began his raid on the state charitable institutions and brought them to a level so low that they have never recovered their former position. The state institutions were then made the political asset of the dominant party, and most of them are still so considered. After two disastrous years Dr. Miller was forced to resign, and Dr. J. Whitefield Smith, now of Bloomington, took charge. Dr. Smith struggled faithfully to bring order out of the existing chaos and might have succeeded, but in 1896 another change in administration occurred and Dr. W. L. Athon succeeded him. From bad to worse, from worse to worst, were the administrations of Dr. Athon, Dr. S. H. McLean, who died while superintendent, and Dr. C. B. Taylor, who occupied the position by appointment of Governor Yates on the recommendation of John G. Oglesby, member of the lower house from the Macon-Logan district.

The daily press has given, in full detail, accounts of the management of the institution in the past years, so that we need not take the space for them here. This was the condition when the present State Board of Charities was appointed. A faithful effort, we believe, was made to secure a man especially trained for the place and strong enough to withstand the fearful local conditions. This was found impossible. The reputation of Illinois has gone abroad in the land, and no self-respecting scientific worker could be found to leave a state where honest effort is appreciated to come where legislative committees and members represent the superstitions and errors of the dark ages, where such a distinguished and unselfish citizen as Rabbi Hirsch must be insulted when he appears before a legislative committee to plead for modern methods of treating the sick.

It was as a last resort and in the hope of beginning a better order of things that Dr. H. G. Hardt was selected for the position of superintendent in 1907. It is no discredit to Dr. Hardt to say that he came to the enormous task, young in years and without special experience among the feeble-minded. He valiantly plunged into the work, facing disloyalty among his employes and deprived of the confidence and help of one of his trustees. The Governor and the Board of Charities have stood at his back. He has done much in the direction of establishing modern methods in the institution, but has been forced, because of the decrepit, mechanical equipment, to devote much of his time to the business side

of the place. It can not be said that he is the best man for the place, but we can endorse the declaration of the Board of Charities "that he should perfect the organization of the medical, nursing and attendant staffs for the purpose of securing recognized individual responsibility as well as efficiency" and "that he is embarrassed by many conditions which can not be made satisfactory by him, except by a longer period of service."

Perhaps an attempt will be made to make Dr. Hardt the scapegoat of the present crises. We feel, judging from our present light, that the defects of the man should be overlooked for the present in view of his courage and what he has done. Now that the atmosphere has been cleared away by the storm, a longer period of service would enable us to determine whether he can overcome the many conditions which embarrass him.

PROPRIETARY PREPARATIONS AND THE USE OF PHOTOGRAPHS IN THE ADVERTISEMENT OF THE SAME.

A suit of considerable interest has been before the United States Court for the past two years. The parties involved are Duffy's Malt Whiskey Company of Rochester, N. Y., *The Tribune* Company of Chicago, Ill., and Mrs. Elizabeth Peck of Mt. Auburn, Iowa, formerly of Englewood, a suburb or part of the city of Chicago.

It seems that in October, 1905, the Duffy Malt Whiskey Company inserted an advertisement in the *Chicago Tribune*, using the photograph of Mrs. Elizabeth Peck and her son, Mark Peck, as the photograph of a Mrs. A. Schuman. In the advertisement this Mrs. A. Schuman, whose occupation was a nurse and whose residence was 1576 Mozart St., Chicago, is quoted as having stated that:

"After years of constant use of your Pure Malt Whiskey, both by myself and as given to patients in my capacity as nurse, I have no hesitation in recommending it as the very best tonic and stimulant for all weak and run-down conditions. At least twenty-five families use it in my own neighborhood, and when I go out nursing patients ask me what to take for that 'gone feeling,' and once that Duffy's is within their reach it is used always."

Mrs. Peck, on seeing the advertisement, at once recognized the photograph to be that of herself and her son, and this being true it could not be the photograph of Mrs. Schuman as it purported. Mrs. Peck not being a nurse nor a consumer of Duffy's nor any other whiskey, took exception to the use of her photograph in a whiskey advertisement and brought this matter to trial, claiming damages of *The Tribune* on the ground that the picture was published without her knowledge or consent and for invasion of her right of privacy, averring that in the printing of this advertisement she had been greatly disgraced and humiliated. The *Chicago Tribune*, being the defendant in the case, claims exemption from the damages on the ground that it had no knowledge at the time of its publication that the portrait printed was not the portrait of the plaintiff in error, or was other than the portrait of Mrs. Schuman.

Judge Peter S. Grosseup, after stating the facts at the January session, A. D., 1907, of the United States Circuit Court of Appeals, Seventh District, delivered the following opinion:

"The plaintiff in error indisputably has suffered a wrong, the gist of which is that by the publication of her picture in connection with a patent-medicine advertisement people who recognize the portrait will be led to think that she has loaned her face, and perhaps her name, in a way that a self-respecting person would not have consented to. Were the case under review an application for an injunction to restrain future publications, or were it an action at law against the parties consciously responsible for the make-up of the advertisement, a question wholly different from the one presented by the record would be involved.

"The first question presented here is whether the plaintiff in error made out a case of libel in her declaration and proof—the gravamen of the action, as set forth in the declaration, being that whereas plaintiff in error was not a nurse, and did not either for herself or as a nurse, use Duffy's Malt Whiskey as a tonic, the advertisement was calculated to convey the impression that she was a nurse and that both for herself and as nurse she had used Duffy's Malt Whiskey as a tonic. This being the whole of the libel charged, and there being no averment of special damages, the question is: Is such a publication libelous, *per se*? We think not. It is not, in our opinion, libelous, *per se*, to say of a person that she is a nurse, or that she has used as a tonic Duffy's Pure Malt Whiskey, or has recommended its use. Nor do we think that these things said of a person, independently of other averments or circumstances, make out a case to go to a jury for determination. Doubtless there are people by whom the use of whiskey as a tonic is considered wrong; and there may be people among whom to be a nurse is considered something less desirable than not to be a nurse. But the world has not yet arrived at a consensus of opinion on these matters, that to say these things of a person is, independently of all other considerations, to libel him.

"This brings us to the other count—that the publication of the advertisement is an invasion of plaintiff in error's right of privacy. The difficulty with this count, and with the proof in support of it, is that defendant in error stood in relation to the advertisement as printer and distributor only, acting without knowledge that the face printed and distributed was that of plaintiff in error, or was not that of the person whose face it purported to be; and as printer and distributor of matter offered as advertising matter, there cannot be indulged that presumption of malice that might possibly be indulged if the matter were printed as a part of the newspaper's collection of news: Now where there is no malice, and no technical trespass to reality or personality, or other case involving the adjudication of title, or some other substantial right, which it was important to the plaintiff to establish, the maxim *de minimis non curat lex* is in some states applied, and recovery for nominal damages not allowed.

"But we need not put an affirmance of the judgment below upon this ground. There was no request made in the court for the allowance of

nominal damages. There is no assignment of error that nominal damages were not allowed, so that there may be applied, we think, the doctrine prevailing in Indiana, New York and other states (no Illinois case or cases from the United States Supreme Court having been brought to our attention) that a judgment under such circumstances will not be reversed for failure alone to give nominal damages. *Rhine, Admr. v. Morris*, 96 Ind. 81; *Platter v. The City of Seymour*, 86 Ind. 323; *Funk v. The Evening Post Publishing Co.*, 76 Hun. (N. Y.) 497.

"The judgment of the Circuit Court is affirmed."

The attorneys for Mrs. Peck have taken exception to Judge Grosscup's opinion. The matter is now before the Supreme Court of the United States and the attorneys of Mrs. Peck will claim that the court, as voiced by Judge Grosseup, treated the case with contempt and handed down an opinion that is utterly inconsistent and irreconcilable with itself. Its opening paragraph declared that by the publication the plaintiff suffered wrong, but further on holds the article not libelous. In short, as they claim in their brief, the opinion is an attempt to rewrite the law of libel. The right of privacy is utterly ignored.

The whole transaction goes to show to what remarkable lengths advertisers of nostrums will go to exploit their wares and to what extent the daily papers will lay themselves liable for the disgraceful and untruthful advertising they are called upon to put before the public. We hope that *The Tribune*, from this experience, will still further extend its rules and in the future refuse admission to its columns of all proprietary medicines and preparations.

PUBLIC COMFORT HOUSES NECESSARY.

The Master Plumbers' Association of Illinois, at their recent meeting in Springfield, unanimously voted to recommend the passage of a law requiring each town and village in the State to fit up public toilet rooms. In a large number of towns, saloons have been voted out, and no public toilet rooms have been provided to take the place of those in saloons formerly used as such. While there may have been a large amount of self-interest influencing the plumbers to pass this resolution, it is nevertheless true that their action calls attention to an urgent need in all American communities. As it now is, public streets and alleys are used, greatly to the discomfort of the suffering public and greatly to the disgust of the adjacent property owners and occupants. Chicago and other large cities in the State might well be included in the law, since none of them have furnished adequate facilities for the public.

We, therefore, take occasion to second the movement of the plumbers on sanitary grounds and hope that such a law will be speedily enacted in this State.

A BUSINESS BUREAU FOR THE CHICAGO MEDICAL SOCIETY.

For about two years a committee on a business bureau for the Chicago Medical Society has been laboring to find particular methods whereby the establishment of such a bureau might become a fact. As a result of a report of this committee in October, the council voted to recommend to the board of trustees that the sum of \$1,000 be appropriated for the establishment of such a bureau. At a subsequent meeting of the board of trustees this recommendation was concurred in, and the business bureau became a fact and opened its office in the Northwestern University Building, Lake and Dearborn Streets, Chicago. It is the purpose of this bureau to immediately accept physicians' accounts for collection and charge for the same a collection rate not to exceed that charged by regular collectors, and as the business develops it is hoped that the rate of commission charged may be reduced.

This venture is no doubt one which carries with it great possibilities for the business management of a large county society such as the Chicago Medical Society. A central office, from which practically all the business of the society may be dispatched, is no longer an insurmountable ideal condition. The establishment of this business bureau is the first step toward the opening of a central office from which all of the business connected with the Chicago Medical Society can be transacted; it looks toward a final consolidation into one office for the purpose of conducting all detail and clerical work belonging to the offices of President, Secretary and Treasurer. Economic business efforts are a necessity in the management of a large medical organization as in commercial enterprises, differing only in that the latter is conducted largely for gain, while the former is conducted with a view to promoting the best interests of the medical profession and the public, with the greatest saving in the expense account. We congratulate the Chicago Medical Society upon this forward step and believe this venture will meet with the greatest of ultimate success.

THE COCAIN BILL BECOMES A LAW.

The bill regulating the sale of cocaine, eucaïne and all similar drugs passed by the present session of the Illinois Legislature was presented to Governor Deneen, January 17, and was signed by him. Before signing the bill, Governor Deneen took the precaution to have it passed upon by the Attorney General, and it is hoped that the bill is so phrased that it will withstand the assaults of its enemies and that the heavy penalty provided for violation will result in a marked diminution of the sale of this disastrous composition. Its passage was approved by the better class of druggists and medical practitioners throughout the state. The people of the state are to be congratulated that the much-needed law will now go upon the statute books.

FORTUNE TELLERS DRIVEN OUT OF TWO CITIES.

The city council of Chicago and Danville have recently enacted ordinances designed to put fortune tellers, palmists and all allied swindlers out of business. It is quite remarkable that at this day and age of the world these people find so many dupes in a community supplied with such a well-educated population as the state of Illinois. A great many of these people have done quite a business in the practice of medicine under the guise of clairvoyancy.

The *Chicago Tribune*, in discussing this subject, acknowledges that in making the attempt to drive out of business the alleged seers, prophets, seventh sons of the seventh son, and other imposters who thrive upon the superstition of the community, the council is undertaking a big job. These frauds have been doing business too long to be rooted out in a day. They have customers in all classes of society. The particular charge which will have more to do with ridding the community of them than anything else is their robbery of all who have dealings with them. Probably the most effective provision of the Chicago ordinance is that which prevents the advertisement of these people.

The corporative council of Chicago was taxed to draw up a wording sufficiently broad to cover all classes, and the following sentence designating the offenders is supposed to cover the ground:

“People who hold themselves out as able to foretell the future, discover lost property, etc., by occult or psychic powers, faculties, or forces, clairvoyance, psychology, psychometry, spirits, mediumship, seership, prophecy, astrology, palmistry, necromancy, or like crafty sciences, cards, talismans, charms, potions, magnetism, oriental mysteries, or magic of any description.”

CITIES AND VILLAGES AUTHORIZED TO ESTABLISH AND
MAINTAIN SANITARIUMS FOR THE TREAT-
MENT OF TUBERCULOSIS.

A bill has been passed by the General Assembly authorizing cities and boards of trustees of villages to levy a tax not to exceed four mills on the dollar annually on all taxable property for the purpose of establishing and maintaining sanitarium for the treatment and care of persons afflicted with tuberculosis, residents of such cities or villages. Three directors shall be appointed by the Mayor or President, one of whom shall be a representative of the local board of health, and the other two with reference to their special fitness for the office. If signed by the Governor we shall watch the enforcement of this law with a great deal of interest.

NOTICE TO MEMBERS.

Any member desiring to present a paper at the next annual meeting of the Illinois State Medical Society, to be held in Peoria May 19 to 21, must communicate immediately with either Dr. George Edwin Baxter, 1916 Evanston avenue, Chicago, Secretary of Section 1 (Medicine), or Dr. W. B. Helm, Rockford, Ill., Secretary of Section 2 (Surgery). The program is being rapidly filled.

Correspondence.

HOTEL ACCOMMODATIONS FOR NEXT STATE MEETING.

PEORIA, ILL., Jan. 22, 1908.

EDITOR ILLINOIS MEDICAL JOURNAL,
Springfield, Ill.

Dear Doctor:—It has been suggested that, inasmuch as the state meeting of the Order of Elks will be held in this city on dates essentially concurrent with those of the forthcoming meeting of the State Medical Society, it would be well to notify the members of the latter who desire a choice in the matter of accommodations that they may make their reservations at as early a day as practicable.

While the local committee feels that there is no danger of any one in attendance being seriously discommoded in this respect, the foregoing information is given, together with that set forth in connection with the appended list of the principal hotels here. Aside from those mentioned below there are numerous smaller hostleries to which the undersigned will be glad to direct any one who desires. In fact, the city is preparing to entertain the 50,000 Modern Woodmen who meet here in national convention in June next, and will be pleased to give every attention and comfortable accommodation to such organizations as our own as a sort of enlivening prelude to the greater task.

The following is the list above referred to:

The National Hotel (headquarters). Capacity 450. Two persons required to a room. American plan. Rates, \$2.50 to \$4.00 per day.

The Hotel Mayer. Capacity 350. European plan. All outside rooms. One dollar per day and up.

Hotel Fey. Capacity 250. American plan. Rates, \$2.50 to \$4.00 per day.

Niagara Hotel. Capacity 220. European plan. Rooms \$1.00 per day and up.

Hotel Smith. Capacity 150. American plan. Rates, \$2.00 to \$3.00 per day.

Hotel Majestic. Capacity 100. European plan. Rooms \$1.00 per day and up.

Sincerely,

O. B. WILL, Committee on Hotels.

Special Article.

EARLY MEDICAL ORGANIZATION IN ILLINOIS AND THE ROCK RIVER MEDICAL SOCIETY.*

WM. O. ENSIGN, M.D.

RUTLAND, ILL.

An item, by no means uninteresting to the medical profession of Illinois, should be the fact that at Rockford was organized one of the first, if not the first, vigorous medical association within the state—The Rock River Medical Society. Here, on March 4, 1846, was issued a call to the physicians of the locality to meet two weeks later, such date being the 17th day of the same month, for the purpose of forming an organization. Here, on the last date named, was instituted a medical society with a territory comprising the entire northern part of the State of Illinois, together with the southern portion of the then Territory of Wisconsin. Here again two months subsequently, or on the 19th day of the following May (it being the third Tuesday of that month) was held in the courthouse at Rockford the first annual meeting of such organization, of which Dr. Josiah C. Goodhue had been made the first permanent president and Dr. Samuel G. Armor its secretary, both of that city. With this meeting the roll of membership had reached a total of 28 individuals, of whom 26 were physicians and 2 of the whole number were apothecaries. The conditions of admission were no less liberal than those we now consider full and free enough to embrace all schools of scientific medicine. Here gathered from their often widely scattered and extended fields of practice many of the first and foremost of their profession. Here, too, came the eminent Dr. Daniel Brainerd from Chicago, by means of his own private conveyance, to attend upon this meeting, to subscribe his name to the conditions of membership and to become allied with this undoubtedly first substantial medical society of northern Illinois.

During its few years of brief but active existence there affiliated with its membership many more of the brightest and most capable practitioners of medicine, from Freeport on the west to Geneva and Chicago on the east, and from Janesville, Wis., on the north nearly to Peoria, Ill., on the south. On the occasion of its first annual meeting, its president, Dr. Goodhue, "one of the earliest practitioners in the northern part of the state," delivered an address on "The Past and Present History of the Medical Profession in the West." Of this discourse, Dr. Brainerd has left assurances that it abounded in items of much historical interest to the profession. Of the society's pioneer character, he has likewise given testimony that it was "the first medical society organized upon so extended a scale in this region," while of the meeting as a whole he said, "We were present and were highly gratified with the zeal and unanimity exhibited and the numerous attendance." This eminent surgeon like-

* Read at the Fifty-seventh Annual Meeting of the Illinois State Medical Society at Rockford, Wednesday evening, May 22, 1907.

wise delivered an address on "The Improvements in Surgery," and this before both the profession and the public in the evening of the same day, which the local press pronounced, as might have been expected from its author, both "instructive and able." A member of the profession then present, in writing to a medical friend more than 40 years later, said of the same address, "It was eloquent, of course, for it was Brain-erd."

It may be true, as has been sometimes intimated, that a few other medical societies had been formed throughout the state at an equally early, or even prior, date to that at Rockford, yet most of such had a far too brief and uncertain existence to now entitle them to more than a passing mention of the fact. There had been a society located at Springfield as early, at least, as 1840, of which but a single notice is within our knowledge. Morgan County possessed a county organization in 1846, but it must have soon faded out of sight. A proposed district society was formed at Ottawa in 1847, however, of brief duration. It was closely followed, in turn, by other medical organizations in the same county down to the present large and active La Salle County Medical Society. A society was also reported in Peoria County as early as 1847, yet the present influential medical organization of Peoria dates its own origin and uninterrupted continuance only from 1848.

The single medical society which might be justly said to have come, in any way, into competition with the Rock River society, as to priority of organization and effective work, is the vigorous *Æsculapian Society* of the Wabash Valley, which was instituted at Lawrenceville, about 275 miles south and east of Rockford, during the same year, and which has long since demonstrated its right to the honor of being the oldest continuously existing medical society in Illinois. The exact day and month of its organization may be possibly in doubt, but the society was incorporated about a year later by a special act of the state legislature, and it is doubtless the first and only medical society within the state to have been so incorporated by a special enactment in its own behalf. This society eventually comprised territory likewise outside of the state, since a portion of the State of Indiana was subsequently included within its sphere of influence. Until 1854 it appears to have had a somewhat precarious existence, although continuing to maintain its original organization from the first, in which named year it entered upon a new and more vigorous life and energy, which has brought it forward to be, a half century later, one of the largest local medical societies within this commonwealth. Incidental allusions to other very early societies have been occasionally met with, but of which no notes or records and often no names seem to have remained to prove or disprove their actual existence.

Of the Rock River society, it might be stated that, while a vital organization, it was active and vigorous. It held numerous meetings, generally semi-annually, alternately at Janesville and Beloit, in Wisconsin, and Rockton, Rockford, Roscoe, Belvidere and Dixon, in Illinois. Of its membership, Dr. Alfred E. Ames, of Roscoe, was the first person to matriculate at Rush Medical College, and his name is to be found on the

first roll of membership of the Illinois State Medical Society, standing alphabetically at its head. Subsequently he became one of the founders of the now great and flourishing city of Minneapolis, Minn. Dr. Samuel G. Armor, of Rockford, the society's first permanent secretary and apparently one of its prime moving spirits in its early development, later came to be an able teacher and popular professor in one or more medical institutions of our land. Dr. R. S. Maloney, of Belvidere, was at one time a member of the National House of Representatives. Dr. Ephraim Ingals, then of Lee Center, later of Chicago, became an honored professor in Rush Medical College, also an intimate friend of Dr. Brainerd, later by request administering upon the estate of his friend on the latter's decease. Not many years since it was our privilege, standing with him beside the grave of Dr. Brainerd, to receive from Dr. Ingals' own lips a brief but interesting and touching account of their mutual esteem and friendship for each other, while the former was yet living and they were associated in the same medical faculty; likewise of his own profound grief and sore distress of spirit at the untimely death, by cholera, of his intimate co-laborer and beloved friend. There were, no doubt, many others among the membership of the Rock River Medical Society who were, at some time in their several careers, eminently distinguished in their profession or otherwise, but our own limited resources of information are too disconnected and scattered to enable us to point out, at this time, the possible facts that may exist in relation thereto. It might be here remarked that the names of Clark, Catlin and Ransom, at least, are still to be found among those of the present local profession, though doubtless of another generation than that to which their honored namesakes belonged. However, we may feel confident that those still bearing such names can be none the less interested, by reason of such fact, in their predecessor's professional relations and commendable achievements.

This pioneer society appears to have subsided about 1850 or 1851, at which time it was succeeded by the Winnebago County Medical Society, of which Dr. William Lyman, of Rockford, was undoubtedly the first permanent president, as he was later, also, the first vice-president of the state society, in 1858. Many of the members of the Rock River society subsequently became members of the state society and of these Dr. Ephraim Ingals was president in 1880. At the last meeting of the early society of which we possess any notes, held at Rockton on Oct. 16, 1849, Dr. A. M. Catlin, of Rockford, presided and delivered a presidential address on "Mental Discipline and Its Relation to the Healing Art," which so captivated his fellows that it was published by vote of the society, and we are informed that one or more copies are still in existence. It is to be feared, however, that as much can not be said for the preservation of the address of Dr. Goodhue, before mentioned, which was prepared by one of the oldest physicians of the locality and, as already stated, abounded in items of historical interest to the profession. If not preserved, its loss is to be deplored, since it might have possibly formed an interesting connecting link in the early history of the medical profession of the northern portion of this state. The last meeting mentioned as

having been held at Rockton was further notable from the fact that it selected seven delegates to attend the convention proposed to be held at Springfield the following year for the purpose of constituting a state medical society for Illinois. The delegates then named were as follows: Drs. R. S. Maloney, Belvidere; A. E. Ames, Roscoe; C. Martyn, Freeport; W. W. Welch, Inlet Grove; Oliver Everett, Dixon; U. P. Golliday, Kickapootown, and A. M. Catlin, Rockford. Medical history heretofore recorded in the transactions of the state society (1895, page 59) shows that not one of the number were ever in attendance upon the convention when held, doubtless owing, in a great measure, to the long distance to be traveled and the slow and limited means of public conveyance then available. However, Dr. S. Allen Paddock, of Princeton, likewise a member of the society, was present and ably represented that body, himself being chosen one of the first two permanent secretaries of the state organization.

This local medical society subsided about the period of the formation of the state society, but this may have occurred, in part, only as a coincidence. It is but fair to suppose, however, that the cutting off of a large portion of its territory by the admission into the National Union, in 1848, of Wisconsin as a state, and the probable formation of local societies within such separated territory, as well as the tendency to the more frequent development of county organizations within our own state, as the population increased, as well as the institution of a state medical society, might have had no little influence also in the final substitution of a Winnebago County medical society for the earlier organization.

In taking leave of this subject, let us be reminded that the early incidents herein recorded relative to the organization of the Rock River Medical Society took place in the city of Rockford, wherein we are now assembled, more than three score years ago, and that the address of Dr. Brainerd, already referred to, was delivered before the early society and the public on the third Tuesday in May, full 61 years prior to the opening exercises of the Illinois State Medical Society's fifty-seventh annual meeting in the same city on last evening.

Let it be further noted that, at the date of this early society's organization, anesthetics had not yet come into general use; that it was not until a year later that Sir James Y. Simpson brought out chloroform as a competitor with sulphuric ether in obtunding the pain of surgical operations; that it was still another year or more later before the first operation under chloroform anesthesia had been performed in the U. S. Army, on which occasion it may here be also related a late member of the Illinois State Medical Society was then present in the capacity of a U. S. hospital steward at Vera Cruz, Mexico, the patient being a soldier, likewise from Illinois; that the hemostatic clamp forceps of Pean or any of its numerous or varied modifications had not yet been invented, and that Sir Joseph Lister's antiseptic methods for aseptic surgery were undeveloped until a score or more of years later.

Nor should it be forgotten that the date of the first meeting of this early society at Rockford was a full year before the American Medical

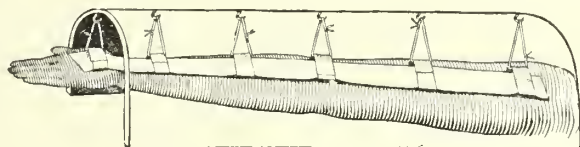
Association was organized, and could have been but little, if any, length of time subsequent to a period when the number of surgeons, eminent in their profession and residing west of the Allegheny Mountains, could have been almost counted upon the digits of a single hand, as Horace A. Ackley, of Cleveland, Daniel Brainerd of Chicago, Reuben D. Mussey of Cincinnati, Benjamin W. Dudley of Lexington, Paul F. Eve of Nashville, and Charles A. Pope of St. Louis. Indeed, it was at a date several years later that Illinois supplied the Pacific coast with one of the early and foremost surgeons of that region, in whose honor a medical school was there subsequently designated by his name, and this in the person of Dr. Elias S. Cooper, formerly of Peoria and one of the founders of the Illinois State Medical Society, in 1850, who, it may be added, was the first member to present a surgical report of any kind to the state society, although but a brief one and as an "additamentum" to the anticipated report of the first committee on practical surgery, in 1851.

Largely, since about the same early period, medical centers, in the given territory, have met with several changes, with the various shifting centers of early populations, thus Willoughby in Ohio to Cleveland and Columbus; Lexington in Kentucky to Louisville; La Porte and Evansville in Indiana to Indianapolis and Fort Wayne; St. Charles, Rock Island and Jacksonville to Chicago in Illinois; while Cincinnati, Nashville, St. Louis and New Orleans appear to have continuously retained their original and early positions, with an appropriate increase of importance at least equal to the corresponding increase of municipal and state populations.

By such occasional comparisons only can it be possible to realize, in any appropriate measure, the limited facilities and primitive surroundings under which these eminently deserving pioneer members of our profession must have patiently borne their responsibilities and faithfully discharged their duties. It might be of much interest to us of to-day to here call a complete roll of such local society's membership during the few years of its existence, if we were fortunate enough to possess one at this late date, but such, we regret to state, is not at our command, even if any should still exist. Doubtless, if so called, it could be done to the discovery of the sad fact only that not a single member may now remain to answer to his own name or to respond on behalf of any of his fellows. It has been our privilege in past years to meet with but few, scarcely more than a trio, of these professional worthies whose distinctive personalities we now recall to mind; yet of all we may unhesitatingly say that, in their courage, energy and earnestness of purpose as pioneer physicians; in the faithful discharge of their laborious duties as such; in their unusual sacrifices in maintaining professional associations with their co-workers; in their unremitting efforts toward the advancement of their chosen profession, and in their strength of character under all difficulties, we may well find abundant assurances of their sterling worth, and that their lives and example have been a constant inspiration to us and should be to all others who may come after them.

May the medical profession of this city, which constitutes about two-thirds of the entire number of physicians resident within Winnebago County, fully appreciate the early efforts and distinguished services of their predecessors who founded this highly creditable local society, and be inspired to secure and put upon permanent record, ere it be too late, a full and faithful account, in the form of as complete a history as it may be possible to obtain, of these pioneer physicians and their early and commendable efforts in behalf of medical organization. In this connection it might be very truthfully added that a complete history of its medical profession and their necessary labors as such will be found to constitute or permeate an important part of the general history of any given community or locality wherein such may have lived and wrought, for who, indeed, more constantly than the physician is to be found dwelling in and identified with every city, village and hamlet, and who more nearly than he may be consistently said to enter into every home and to reach every fireside in the land?

Dr. James L. Reat, of Tuscola, has devised a method of treating extensive burns of the arm, illustrated by the accompanying cut, for the use of which we are indebted to *Red Cross Notes*, the publishers being Johnson & Johnson, manufacturing chemists of New Brunswick, N. J. The cut will explain the method of treatment by means of the zinc oxid plaster and wire frame without further description.



Dressing for Extensive Burns.

Dr. James L. Reat, of Tuscola, Ill., suggests the method shown in the above drawing and reports the case of an extensive burn (involving all the anterior portions of the body) where the skin, the subcutaneous connective tissues, muscles and fascia of the palmar surface of the arm were all destroyed. The dorsal or upper portion of the arm was sound. "Z O" adhesive plaster was applied on the portion which had not been burned, from dorsum of hand to deltoid muscle, then loops of plaster were attached to the long strip with tapes through the loops. The arm was lifted up out of its slough and suspended by a semicircular form placed over and parallel with the arm, bringing the under surface to view. The recovery was rapid.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

Regular Meeting Dec. 9, 1907.

The Adams County Medical Society met on the above date in the Elks Club Rooms, with the officers and a goodly number of the profession in attendance. Under the proper heading Dr. L. H. A. Nickerson was appointed as our auxiliary member of the Legislative Committee of the State Society. Applications for membership from Dr. J. A. Mitchell, Ursa; Dr. J. Lenne Aleshire, Plainville, and Dr. W. S. Wolfe, Quincy, were read and referred to the Board of Censors. Drs. W. E. Doane, of Beverly, and John C. Steiner, of Golden, were elected to membership at this meeting. The Board of Censors reported adversely on the application of Dr. Wm. John Meyer, Quincy, on account of certain objectionable lines on his sign, and recommended that his application be laid over until such objectionable features should be removed and until he had passed an examination, practical in character, before the Board of Censors of this society. Dr. John L. Porter, of Chicago, was then introduced and addressed the society on the subject, "Painful Feet," a subject which he presented in a practical manner. After his address, in response to questions, he spoke on hallux valgus and Pott's disease. Dr. L. B. Ashton presented an ingenious support, made of aluminum, for Pott's disease. From an early hour until after 12 noon Dr. Porter conducted an orthopedic clinic at Blessing Hospital, where he operated upon a variety of cases, including a rachitic deformity in the legs of an 8-year-old colored girl. In this child there was extreme deformity, the bones of the legs bowing both anteriorly and outwardly. The Grattan osteoclast was brilliantly used. Other cases were represented by the different forms of talipes, congenital and paralytic. He demonstrated and gave clinical talks on cases of hip-joint disease, spastic paralysis and contractures resulting from cerebral lesions. He showed a case of spondylitis deformans in a 16-year-old boy, and said that such a case in one so young was extremely rare. The clinic and demonstrations were well attended and the universal comment was that it was one of the most enjoyable and profitable days the Adams County Medical Society had ever enjoyed. Dr. Porter by his skill, his unassuming and great kindness of manner made a friend of every member of this society. A hearty vote of thanks was extended to the Doctor for the pleasure and profit of the day.

Regular Meeting, Jan. 13, 1908.

The Adams County Medical Society met on the above date in the Elks Club Rooms, with the officers and a large number of the physicians of Quincy and Adams County in attendance. The application for membership of Dr. Wm. John Meyer, which was held up by the Board of Censors at the December meeting on account of his unprofessional door sign, was withdrawn by the Doctor with the consent of the society. Dr. E. H. Toole petitioned for reinstatement in the society and will be received when the back dues are met. Upon favorable reports by the Censors the following gentlemen were elected to membership: Drs. J. A. Mitchell, Ursa; J. Lenne Aleshire, Plainville, and W. S. Wolfe, Quincy. Luncheon was served at the Hotel Newcomb. At 1:30 the society was called to order by the president, who introduced Dr. J. F. Percy, of Galesburg, who gave an inspiring address on "The Relation of the Physician to His County Society." Dr. Percy is one of the working leaders of our profession and always has a warm welcome from our society. Then came Dr. Carl E. Black, of Jacksonville, counselor of this district, who gave a clear, lucid and highly instructive address on "Case Reports and the Necessity for Keeping the Same." Dr. William L. Baum, of Chicago, president of the Illinois State Medical Society, was the last speaker and took for his subject "Erysipelas and Its Treatment." To say that his address

was that of a master in medicine is but to speak the truth. At the conclusion of the same a rising vote of thanks was expressed to our distinguished visitors. Dr. Joseph Robbins then offered the following resolution:

WHEREAS, During the year just closing this society has enjoyed the presence and the instruction of several eminent medical men from abroad, who have freely given us their time and their best thought; therefore, in recognition of the fresh impetus their distinguished service has given to professional study among our fellows, and as reflecting the present delight and profit with which we heard them,

Resolved, That Drs. L. Harrison Mettler, Daniel C. Eisendrath, Emil Ries, Alfred C. Croftan, James F. Percy, Joseph B. Bacon, Carl E. Black, John Lincoln Porter and William L. Baum be, and are hereby, constituted honorary members of the Adams County Medical Society.

This resolution was enthusiastically and unanimously adopted. The society then adjourned.

CLARENCE A. WELLS, Secretary.

PAINFUL FEET.

JOHN L. PORTER, M.D., CHICAGO.

I have chosen the general title of "Painful Feet" for my subject because it is a convenient descriptive term for a group of affections of the foot, which vary very much as to their etiology and pathology, but have all the common symptoms of pain. In fact, the pain is the one important thing about them all from the patient's point of view and for which he seeks relief in nearly every case. It is the recognition of the various diseases and conditions which produce pain in the feet that I wish particularly to call your attention to.

To begin with, it is because the feet have to bear the weight of the body and the arches and levers composing the foot are subjected to such a strain in supporting and propelling the body that the pain is located in the feet. In many conditions underlying painful feet the hands would be the seat of the pain if we were obliged to walk upon them. And our very dependence upon our feet in getting about our daily occupation lends added importance to affections of those extremities. We can suffer considerable pain and disability in the hands or other portions of the body and still keep busy, but when one's feet go back on him he is "down and out" in every sense of the term.

And right here at the outset I want to impress upon you the necessity of careful examination in every case, not only of the feet, but of the patient. To listen to a patient's history of chronic pain in his feet, steadily increasing with more or less disability, and tell him he has rheumatism, and fill him up with salicylates and send him on his way, without even examining him or his feet, is surely a travesty on the practice of medicine, but a common one. Surely, rheumatism, like charity, covereth a multitude of sins, but chiefly in medicine, sins of omission. Probably 75 per cent. of the cases of painful feet that come to our attention give a history of having been treated for weeks or months for rheumatism, and when the matter is sifted to the bottom and a correct diagnosis is made, not 1 per cent. is due to that disease.

Pain has been so synonymous with rheumatism in the past, at least, where joints were concerned, and our medical conception of rheumatism has been so hazy that the term has been a very convenient one to us when we didn't know what the matter was, but with our better knowledge of joint diseases and of the pathology of true rheumatism it is time to realize that, so far as painful feet are concerned, the chances are 75 to 1 against that being the actual trouble.

Without doubt the most frequent of the painful foot affections is flat-foot of some degree. The term flat-foot is generally used to designate a breaking down of the longitudinal arch, but clinically there should be recognized three different degrees of flat-foot, and for the sake of clearness I would call them, first, weak-feet; second, flat-feet; and, third, rigid-flat-feet.

Weak-feet are those in which the arch becomes obliterated when the patient stands, due to relaxation of the tarsal ligaments, but in which some active

pronation and supination is still possible. Such cases are apt to complain of pain in the latter part of the day and of extreme fatigue upon long standing or walking, and the pain is as frequently referred to the dorsal and outer surface of the foot as to the inner plantar region, although tenderness about the scaphoid is usually present. Such feet are seen more frequently in children and young adults. Support of the arch by strapping in the supinated position and the wearing of a proper shoe with a triangular heel results in a cure if the patient will exercise the foot daily in a way to strengthen the tibial muscles.

Group two, genuine flat-foot, is a condition in which the arch is flat when the patient is not standing, active pronation and supination is lost and passive attempts to supinate the foot causes pain. Tenderness, often exquisite, is found about the scaphoid and os calcis and the patient walks with a halting gait. These cases often complain of severe pain on first arising which wears off later, after they have been about with shoes on, but later in the day they may have pain up the leg to the knee or even to the hips, and occasionally severe backache, especially in the lumbar region. Such feet require as a preliminary treatment, prolonged rest and immobilization in a supinated position, followed by a rigid support to be worn in a properly made shoe. My custom is to place a triangular felt pad under the scaphoid and put the feet up in plaster-of-Paris in as extreme supination as the patient can stand. This is kept on for from 2 to 4 weeks, according to the severity of the case, and it is really astonishing to see how much improvement is secured. The patient is made perfectly comfortable at once and usually when the cast is removed the foot is quite freely mobile, pronation and supination have returned, the tenderness is gone and the patient considers himself able to begin walking at once, but, unless a proper support is at once given the foot, the trouble soon recurs. And right here is the proper place to describe what is a proper support and to correct some popular ideas about foot-plates.

In find the average practitioner has the idea that all cases of flat-foot require foot plates, that it makes little difference what kind of plate is used, and that if he sends the patient to a shoe store to buy an arch support, as they call them, or tells him to go to some instrument maker and have some plates made, his patient will be relieved. All three of those ideas are erroneous. Some cases are best treated by foot plates at once and many cases are benefited by the use of foot plates during some part of the treatment, but all the foot plates that have been forged since the time of Tubal Cain would be of no value in many cases, but positively harmful. When the patient appears to the shoemaker for a support he picks out one of the various styles of arch supports that he considers the proper size, puts it into the shoe, and collects 25 cents to a dollar, and sends the patient on his way blissfully ignorant that he has not done all that needs doing. The plate may give relief for a time or may become so painful in a few hours that the purchaser can not wear it. In 90 per cent. of the cases they have to be discarded eventually and the patient seeks more expert advice. When a patient is sent to an instrument maker his usual method is to make an outline drawing on a piece of paper of the patient's foot, over this he traces an outline of the shoe, and with these he traces an outline of a piece of metal called a "blank," which he puts into a vise with a wooden block shaped like the arch of a foot, and over this he hammers out the particular style of foot plate which he is accustomed to make, puts it under the patient's foot, asks him to stand upon it, and if it does not hurt he puts it into the shoe and tells him to wear it. If it hurts he raises or lowers the arch, or bends the edge until it is comfortable. Occasionally he makes a plate which gives support in the right place, and the patient by wearing it constantly, and occasionally having it elevated, gets along very comfortably. But as a matter of scientific accuracy and anatomic good sense he might just as well put a china plate into the vise and try to hammer out a set of false teeth. For there are no two feet alike and a plate to be curative must be made with an accurate knowledge as to where the trouble lies anatomically and for the particular case in hand.

And now we come to the third and most severe form of flat-foot, the rigid-flat-foot. In these cases the foot is pronated and cannot be either actively or pas-

sively supinated. The tarsus, especially the scaphoid and astragalus, are rotated inward and downward, often to such degree that the scaphoid comes in contact with the floor, the astragalus is seen projecting beneath the skin, the arch is entirely obliterated and the patient walks with a halting, shuffling gait and with the feet turned out. Pain is often less severe in these cases than in either of the first two classes, because the stage of severe painfulness is past, as the ligaments are relaxed and stretched to their utmost, and the foot has a bony support, but the patient is extremely disabled, can only walk short distances without fatigue, and can not run at all. All motions at the ankle are slight, and in fact the foot is little else than a stiff unyielding stump for the leg. Such cases can only be improved, the foot can never be restored to its normal flexible, elastic condition. Such feet are usually seen in adults past 35, though occasionally they are found in young adults, and I have seen 2 or 3 in children at about adolescence. The only treatment that avails anything is surgical. The patient must be given an anesthetic. When complete muscular relaxation is secured we often find that with a McCurdy or Thomas wrench, the adhesions between the bones can be broken up, the shortened ligaments torn and stretched, and a fairly good restoration of the tarsus secured by sheer muscular force. In many cases the peronei muscles and tendons have become so contracted that they offer a great obstacle to reduction. In those cases excision of one-half to one inch of both the peroneus longus and brevis, just behind and above the external malleolus, facilitates the reduction very much. Where these measures are insufficient a cuneiform osteotomy, removing a bony wedge from the internal border of the tarsus, or an astragalectomy, is the only resort. Whatever procedure is undertaken it must be thorough enough to permit the foot to be put up in plaster-of-Paris in a supinated position. This is maintained for from 4 to 8 weeks, depending upon the amount of traumatism that has been inflicted, and it is often surprising to find how much the foot has improved in comfort, usefulness and motion following such severe measures. After the tissues have entirely recovered from the operation some form of a rigid support is devised for permanent use and the patient is encouraged to begin putting a little weight upon the feet, and massage, hydrotherapeutic and passive motion is begun. Some of these feet are thus made much more comfortable, elastic and useful, but it requires from 2 to 6 months to secure results that will permit the patient to walk about with his shoes on again.

Gonorrheal arthritis involving the tarsal articulations, and especially the articulations of the os calcis, are much more frequent than we used to suspect, in fact, that peculiar condition known as painful heel is so often the result of gonorrheal infection that we suspect it in every instance. Baer of Johns Hopkins has demonstrated the gonococci in scrapings from the periosteum in quite a number of these cases. Besides the os calcis, any of the other tarsal joints may be involved, and as the gonorrheal inflammation affects the peri-articular more seriously than the articular tissues, we find in the structures about the foot that have been involved softened, boggy and relaxed during the acute stage of the trouble, and consequently a degree of flat foot or weak foot usually accompanies a gonorrheal arthritis. Another peculiarity of these cases is that the arthritis usually develops after the subsidence of the acute urethritis, often during the gleet stage. The history of the case is usually a sudden development of pain about the arch of the foot, especially on walking, which grows steadily worse until the patient is incapacitated. With this is often a slight swelling and redness, and if a recent urethritis is confessed, a diagnosis of gonorrheal rheumatism is promptly made. But in many instances the arthritis occurs so long after the urethritis that both patient and physician fail to attach any causal relation to the latter, and especially in those cases which develop slowly and without acute inflammatory symptoms, as many do. Later the foot resumes a practically normal appearance except with some pronation and flattening of the arch, but the patient still complains of great tenderness under the heel, corresponding to the tubercle of the os calcis. This pain is only felt when he walks, but examination reveals greater or less tenderness all about the os calcis, and even of the scaphoid. An x-ray of the foot later in the disease, say several months after the

onset, often reveals bony exostoses at the seat of the tenderness, usually under the os calcis and sometimes at the point of attachment of the tendo-Achillis.

Morton's metatarsalgia is a cramp-like exceedingly painful affection of one or more of the metatarso-phalangeal joints. It occurs more frequently in adults and in women more often than men. The pain comes on suddenly and almost invariably when the patient has his shoes on, and is described as cramp-like and excruciating, often radiating along the foot and up the leg. The patient has to sit down at once and remove the shoe and rub and squeeze the front of the foot and work the toes. This usually gives relief. The attacks may occur only at long intervals or may be so frequent as to disable the patient. The trouble is caused by the flattening of the anterior or transverse arch of the foot when compressed by the shoe so the ball of the foot has not room to spread. (Analogous to the pain produced in the hand by squeezing the metacarpo-phalangeal joints when relaxed.) The third and fourth joints are most often the seat of the pain. The wearing of narrow, high-heeled shoes predisposes to the trouble as the weight falls largely on the heads of the metatarsals while they are held in a position to work at great disadvantage.

The treatment consists in wearing a stout shoe with a low heel and with room enough across the ball to allow of inserting a metal or felt insole with a lift corresponding to the normal arch that will prevent the dropping of the metatarsal heads and hold the foot in normal shape. Some cases are immediately relieved by strapping the ball of the foot snugly with a thin felt wedge under the heads of the metatarsals. In a number of cases the pain and disability has been so great that resection of the head of the offending metatarsus has been resorted to. The operation is successful, but it destroys the symmetry of the foot as it makes the toe shorter than the others, and I have never seen a case so severe that it could not be relieved by mechanical treatment.

72 Madison Street.

BI-COUNTY (IROQUOIS-FORD.)

The fourth annual meeting of the Bi-County (Iroquois-Ford) Medical Society, at Watseka, Ill., Dec. 3, 1907, was one of the most successful and largely attended held in the history of the organization. After dining at the Iroquois Hotel all repaired to the County Court-room. Order was called by the president, S. D. Culbertson, of Piper City. Some routine business was then settled, after which the following physicians were elected to membership: Drs. D. W. Gross and Wm. Hecker, of Watseka; J. S. Cunningham, of Gibson City; M. R. Marsh, of La Hogue; and I. D. Kelsheimer, of Paxton. The following were elected officers for 1908: President, T. N. Boue, M.D., of Loda; vice-president, J. Y. Shamel, M.D., of Gibson City; secretary, Robert Lumley, M.D., of Watseka; treasurer, Horace Gibson, M.D., of Sheldon; censor, A. J. Newell, M.D., of Onarga; delegate to state medical society, O. O. Hall, M.D., of Milford.

SCIENTIFIC PAPERS.

"Retrodiseplacements of the Uterus," by L. P. Dawes, M.D., of Chicago. Although Dr. Dawes largely limited himself to operative treatment of these conditions, his paper was exceedingly interesting and instructive. He dwelt chiefly on a modification of the Gillian method of shortening the round ligaments, which he considered the procedure of preference in cases not complicated by pus, or in which no adhesions existed that could not be broken up without too much damage to other structures.

His technic is as follows: "After the usual preparation, the peritoneal cavity is opened by an incision in the median line, below the umbilicus, three to four inches in length. Other necessary work having been done, and the intestines packed away from the pelvis, each round ligament is caught with a hemostat, 1½ inches from the uterus. Then the abdominal wall is pierced about 1½ inches above the symphysis pubis, and just beneath the anterior sheath of the rectus muscle, with a curved, puncturing, tenaculum forceps, which passes to the outer border of the rectus, punctures the posterior sheath, and keeping just outside the

peritoneum, follows the abdominal wall outward until it reaches the broad ligament. Then into the broad ligament, toward the uterus, still beneath the peritoneum, until the point where the hemostat holds the round ligament is reached. Then, after releasing the hemostat the round ligament is drawn into the track of the wound made by the tenaculum forceps and out at the median incision beneath the anterior sheath of the rectus. The same is then done on the other side. Usually these ligaments can then be brought together and sutured to each other in the median line. Before suturing, however, it is necessary to adjust the tension on these ligaments, the proximal ends to draw the uterus up and forward, the distal ends to close up the opening between the ligaments and the anterior abdominal wall. If not long enough to bring together in the median line, each round ligament may be sutured to the under surface of the anterior sheath of the rectus muscle. Some advantages claimed for this operation are: 1. In many cases other work in the abdomen, or pelvis, is required. 2. The stronger portion of the round ligament is utilized. 3. The direction of the pull is upward and almost forward. 4. The operation may be quickly and safely done. 5. It leaves no free bands in the peritoneal cavity by which an intestinal coil may be caught. 6. Less suturing is required than in Ferguson's modification of the Gillian operation. 7. It does not interfere with pregnancy. 8. Drawing up the round ligaments in this way at the same time shortens the broad ligaments, thus reinforcing the uterine support. 9. So far as known to the author, no bad results have followed."

Discussion by Drs. Miller, Lumley, Newell, Ross, Hall and Brown followed. which was closed by the author of the paper.

"A Résumé of the Work Done by this Society During the Present Year," by S. D. Culbertson, M.D., of Piper City. Dr. Culbertson's paper was an able condensation and recapitulation of what the society has accomplished during 1907. Although he did not say so, Dr. Culbertson had much cause for self congratulation on the success of the work. The society has gained greatly in membership and influence, and the meetings have been interesting, instructive and well attended.

Votes of thanks were then tendered the retiring president and the secretary for able and efficient services during the year, and Judge John H. Gillan for the use of his court-room. Drs. D. W. Miller, J. S. Near and J. C. Bucher were appointed as Committee on Public Health and Legislation. Society adjourned.

ROBERT LUMLEY, Secretary.

BUREAU COUNTY.

The twenty-eighth semi-annual meeting of the Bureau County Medical Society was held at the city hall, Princeton, Ill., Thursday, Nov. 14, 1907. Those present were: C. C. Barrett, M. H. Blackburn, M. J. Coveny, J. H. Franklin, O. J. Flint, J. P. Garwood, William C. Griswold, M. N. Gernsey, Clyde Horner, W. M. Kaull, Frank Lewis, W. A. Linebery, J. H. McLean, A. E. Owens, C. A. Palmer, F. C. Robinson, C. C. Scott, J. F. Taylor, L. H. Wiman and W. D. Chrisman. Secretary and treasurer's report of the preceding meeting adopted as read. The special committee appointed to investigate the unjust cutting of physicians' bills by the Board of Supervisors reported that they had consulted an attorney, who advised that a committee be appointed and any such cases be investigated by said committee, and, if deemed advisable, make a test case of same. The suggestion was accepted, and a motion was made that a standing committee be appointed, which shall be known as the "Medical Legal Committee," whose duty it shall be to investigate any cases reported wherein the physician's bill has been unjustly cut. C. A. Palmer, J. H. Franklin and M. H. Blackburn were appointed on said committee. A letter was read from the editor of the ILLINOIS MEDICAL JOURNAL in regard to helping the advertising columns of the JOURNAL by purchasing supplies from houses which advertised in the JOURNAL. A motion was made that this letter be placed on file. Carried. A letter was also read from Dr. Egan, secretary of the State Board of Health, protesting against a repeal

of the law providing for payment for reports of deaths and births. Dr. C. A. Palmer moved that the Society write to representatives and senator from this district, protesting against repeal of said law. Motion carried.

TREASURER'S REPORT.

—Receipts.—

Balance on hand May 9, 1907.....	\$ 60.80
Receipts from dues	75.50
Total receipts	\$136.30

1907.

—Disbursements.—

May 18, envelopes	\$.53
May 20, by draft to Weis.....	99.00
May 21, by draft to Hollister & Ensign fund.....	3.00
June 3, by draft to Weis.....	5.00
November 1, envelopes86—\$108.39

Balance on hand Nov. 14, 1907.....	\$ 27.91
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The following papers were read: The Abdominal Incision, by Clifford U. Collins, of Peoria, Ill.; A Case of Uterine Cancer, by S. W. Hopkins, of Walnut, Ill.; Medical and Surgical Treatment of the Prostate Gland, by J. F. Percy, of Galesburg, Ill.; Appendicitis from a Surgical Standpoint, by C. C. Scott, of Princeton, Ill. The papers were all excellent and brought out much interesting discussion.

Officers elected for ensuing year: A. S. Rummell, president; J. F. Taylor, first vice-president; C. F. Horner, second vice-president; O. J. Flint, secretary and treasurer. C. F. Horner was appointed delegate, and O. J. Flint alternate to the State Medical Society meeting, to be held at Peoria, Ill. D. C. A. Palmer was appointed to represent the society on the State Medical Legal Committee. Visitors: J. F. Percy, Galesburg; Drs. Kemp, Henry, Wm. O. Ensign, Rutland; Dr. Collins, Peoria; Mrs. C. A. Palmer, Princeton; Edgar Cook, Mendota; Dr. Persis White, Princeton.

COOK COUNTY.

Regular Meeting, November 6, 1907.

A regular meeting was held Nov. 6, 1907, with the President, Dr. Henry B. Favill, in the chair. The subject for discussion was a symposium on Acute Articular Rheumatism. Papers were read as follows: 1. Etiology of Acute Articular Rheumatism, Dr. George W. Webster. 2. Etiology, Bacteriology and Pathology, Dr. L. M. Loeb. 3. Cardiac Complications, Dr. Robert B. Preble. 4. Treatment, Dr. Frank Billings. The symposium was discussed by Drs. N. S. Davis, Robert H. Babcock, William J. Butler, Charles A. Parker, C. J. Lewis, A. W. Baer, C. S. N. Hallberg, R. H. Brown, George W. Webster, L. M. Loeb, Robert B. Preble, and the discussion closed by Dr. Billings.

DISCUSSION ON THE SYMPOSIUM ON ACUTE ARTICULAR RHEUMATISM.

Dr. N. S. Davis:—After listening to the papers, I feel like emphasizing two or three points a little more than they have been. In the first place, my experience has impressed me with the very frequent occurrence of endocarditis, especially in children, with the most trivial evidence of rheumatism or none except sore throat. Therefore, I have come to look upon all cases of even trivial sore throat in children with anxiety because of the possibility of endocarditis developing in connection with it. Children, who are prone to tonsillitis, are almost invariably prone to rheumatism, and, as Dr. Billings has said, it manifests itself usually, if it does at all, in atypical form. For many years I have been impressed with the frequent almost uniform occurrence of a digestive disorder preceding attacks of rheumatism and of tonsillitis. I have come to regard the stomach trouble as a part of the disease, and as possibly pointing to the channel through which infection takes place. If the tonsils are the channels through which infec-

tion takes place, the occurrence of indigestions may be a condition predisposing to tonsillitis. For such digestive disorders cause furring of tongue and congestion of pharynx, change which can make infection of tonsils easy. Moreover, they lower vitality, and in that way also open the portals to infection.

These statements lead to another point I wish to make, and that is for the prevention of rheumatism and of its recurrence a good digestion and full and regular bowel movements must be maintained and if possible a clean condition of the throat. I think this is of the greatest importance from the standpoint of prophylaxis.

The observations of Flint and Sutton have been in my mind for a long time, and they have interested me very much because of the natural duration and course of the disease which they reveal to us and which must be kept in mind in estimating the value of remedial agents and procedures.

By treatment we seem to shorten the course of the disease little or not at all. For instance, Flint's cases, as I remember them, averaged about 26 days, but of them there were 3 which recovered in a little less than 15 days, and there were a few more which lasted for 56 days or thereabouts, and the great majority ranged somewhere between these two extremes, making an average of about 26 days. The extremes are what we observe commonly under various kinds of treatment. Although we can not surely shorten the course of rheumatism by treatment, we can contribute greatly to the patient's comfort.

Dr. Robert H. Babcock:—Mention has been made by the speakers this evening of the frequency of throat infection in the etiology of rheumatism. This has been greatly impressed upon me in the last few years, because practically every adult or child that consults me with evidence of chronic endocardial lesion gives more or less evidence of an unhealthy throat. I have been so much impressed with this that in the prophylaxis of rheumatism I make it a strong point to insist on having the throat put in as healthy a condition as possible, having the tonsils removed when they show they are chronically diseased, and in all cases urge the use of gargles, antiseptic gargles and sprays, not so much with any idea that they will destroy the bacteria in the throat, but that they may keep the tissues in a healthier condition. As Dr. Billings has said, the throats of children are so rich in lymphoid tissue that they furnish a ready soil for the growth and development of bacteria.

I would like to emphasize the fact that endocarditis in childhood may be the only evidence of rheumatism. So important is this that I believe every family physician who has the care of children should in any case, in which the child is not well, always pay attention to the heart; make repeated examinations of the heart, since he will frequently stumble upon evidence of inflammatory action.

Lastly, I should like to speak of the effects of rheumatism on the myocardium. As stated by Dr. Preble, myocarditis is much less common than endocarditis or pericarditis; but I believe we are apt to neglect the effects of a rheumatic endocarditis upon the myocardium. Let us take, for instance, a simple case of endocarditis of the mitral valve. The mitral murmur should replace the first tone gradually with the increasing leak. But we frequently see in children who develop this condition that the murmur replaces the first tone with remarkable rapidity, a very much greater rapidity than we can explain on the hypothesis of an inflammation of the leaflets alone. In these cases there are all the signs of a dilatation of the left ventricle. There may or may not be a parenchymatous myocarditis; but whether there is or is not, there is in these cases such an amount of dilatation that the mitral insufficiency is greatly intensified by the effects of the disease on the myocardium. This is proved by the fact that months of enforced rest, or perhaps of absolute rest, and after active inflammation has subsided, the long-continued use of digitalis, associated with rest, will bring about such a reduction in dilatation that the murmur not only becomes less intense, but the first sound will reappear, and the leak become very much less grave than we at first feared it would be. I feel, therefore, that in the management of these cases we can do

a great deal in the prevention of serious cardiac embarrassment and inadequacy if we insist on rest for a much longer time than we are usually apt to do.

Dr. William J. Butler:—This discussion seems to have centered around rheumatism and endocarditis in children. If Dr. Preble refers only to those cases of rheumatism in children which have articular swellings, then I would not question the statistics cited as to the frequency of endocarditis in children. But in view of the subsequent statements made by him as to the manifestations of rheumatism in children, I wish to say that if the statistics from Johns Hopkins Hospital or from the St. Anna Children's Hospital are founded on all such cases of rheumatism in children, I believe them to be absolutely erroneous; that is to say, that 95 per cent. of female children and 64 per cent. of both sexes with rheumatism develop endocarditis. If we regard a systolic murmur as diagnostic of endocarditis, then I do not question these statistics. A study in auscultation of the normal heart in later childhood, in the recumbent position, will convince one that a systolic murmur over the apex or at the base of the heart is frequently found. They are accidental and the most of them are cardio-respiratory murmurs.

A systolic murmur assumes diagnostic importance as a sign of endocarditis in children when the child's heart shows other evidences of changes having developed. Of course, from a therapeutic standpoint, a child that has rheumatism and presents over the heart a systolic murmur, even in the absence of all other signs, should be treated as though he had endocarditis. But a systolic murmur *per se* is not diagnostic of endocarditis in a child; of that I can assure you, from auscultation of the heart in a great number of healthy children. The reason for this large percentage is due to the fact that accidental murmurs are frequently misinterpreted as organic murmurs.

Then, again, as to the healing of a mitral endocarditis in the case of an acute aortic and mitral endocarditis. I believe that endocarditis, when once established never heals, so that the evidence of it entirely disappears. At least, I think this view is the generally accepted one.

In order to speak of a matter in the prophylaxis of rheumatism, I trust you will pardon my mentioning a few statistics taken from a small number of a lot of records collected by me during the past few years on question of the association of tonsillitis, rheumatism, chorea and endocarditis. Of the 30 unselected cases of chorea, taken as they come to us in the clinic, 22 had a history of tonsillitis, either just prior to or during an attack of chorea; 19 of the 30 cases gave a history of rheumatism; 3 of the 19 cases that had rheumatism were said not to have had tonsillitis, thus making 25 cases in all that had either tonsillitis and rheumatism, rheumatism and tonsillitis, either in close relation to the developing chorea or slightly removed from it.

Nine of the 30 cases had endocarditis, 7 of whom had mitral lesions, 6 being mitral insufficiency, 1 mitral insufficiency and stenosis. One had aortic insufficiency and another aortic and mitral insufficiency. All of the endocarditis cases except one had had rheumatism. In one a history of a sore throat only was obtainable. Five of the 30 cases had not had tonsillitis, rheumatism or endocarditis.

In summarizing the above, 22 of 25 cases of chorea had a history of tonsillitis. All of the rheumatism cases, except 3, gave a history of tonsillitis. While this small number of cases is too few to admit of conclusions, they illustrate the point I wish to make, and that is, that a tonsillitis occurring in a child is not to be looked upon as a light transient matter, but rather one of considerable moment, that may be the forerunner of various rheumatic manifestations, such as joint aches, articular swellings, chorea, endocarditis, myocarditis or pericarditis, that the advisability of removing enlarged tonsils in children before trouble has started, or of removing tonsils already sources of mischief before giving an opportunity of systemic infection from this source to develop should be considered as of paramount importance in the prophylaxis of rheumatism.

In regard to treatment, Bier's method has been applied considerably of late in Germany in the treatment of articular lesions of rheumatism, and some, as Klemperer, are quite enthusiastic as to the result. There is little doubt that many

cases, in view of their being, in all probability, of bacterial origin, would be benefited by this means, as are some other joint infections. It will of necessity, however, sometimes fail, as it does in other infections, because of the fact that the value of it rests in induced autoinoculations, which, of course, can never in such a manner be intelligently regulated, and, in consequence in some instances, where autoinoculation is of proper degree, will be beneficial, and in other instances where this is not the case, it may prove valueless or do actual harm.

Dr. Charles A. Parker:—With regard to the question spoken of by Dr. Butler and others, I would like to know if there are any special statistics showing freedom from rheumatism in those who have had their throats treated by the present methods of practice and their tonsils and adenoids thoroughly removed. In other words, do those children have rheumatism, and if so, what proportion of them have it after their throats have been treated and tonsils have been removed? Possibly some specialist here can answer that question. At any rate, I would like to have that phase of the subject discussed more freely.

Dr. C. J. Lewis:—I notice that *veratrum viride* has been spoken of as not indicated in rheumatic endocarditis. In regard to the use of *veratrum* or *veratrin*, as put up by Parke, Davis & Co., I want to say that it, in connection with a mild solution of iodid of potash in my hands in recent years, has been very effective in overcoming articular rheumatism. It relieves the pain practically as would morphin. It gradually diminishes the hyperpyrexia, when present, although of late years I have not seen much of that. I have had better results with this remedy in handling these rheumatic cases than I have had for years with salicylates. Perhaps I would hesitate to use it in as large doses as these in cardiac lesions. I have used 1/60 grain of *veratrin*, and in some cases 1/32, every three or four hours, and have had excellent results from the administration of it with iodid of potash.

Dr. A. W. Baer:—In regard to the use of the salicylates, the salicylic acid of to-day is nearly all synthetical, and Dr. Billings spoke of using the oil of birch and oil of wintergreen, and that was originally the source of most of the salicylic acid, and the reason why we do not get as good results to-day as formerly from the use of salicylic acid is because of its being a synthetic product, more or less irritating to the mucous membranes.

Dr. C. S. N. Hallberg:—It is not a question of getting sufficient effects of salicylic acid; in a way, you get too much of the effects of the acid. Synthetic salicylic acid causes disturbance of digestion, and that is what makes the use of salicylic acid in large doses so unacceptable.

I would like to call attention to the external use of salicylic acid in 10 or 20 per cent. ointment of lanolin and olive oil, applied to the joints by inunction. This has been found very effective. The oil of wintergreen or the oil of birch mixed with an equal volume of olive oil may be employed in the same way. It is said that the effects of salicylic acid are derived by inunction much more quickly and uniformly, without the digestive disturbances, than if taken by the mouth. This may be well worth considering.

Dr. R. H. Brown:—I have noticed that cerebral rheumatism has been mentioned a few times as being very unusual. It has been my peculiar fortune in a limited general practice to have seen five cases of rheumatic meningitis, and a very brief résumé of the symptoms of this disease in these cases may not be amiss.

The first case was a young man, 21 years of age, seen about 13 years ago. The trouble began with a rheumatic inflammation of the knee and ankle joints, and, rapidly coming on, there followed marked nervousness which amounted to almost a hysteria. A maniacal condition developed, deepening gradually inside of a week or ten days into marked coma. The coma continued and was so extreme that for nearly three weeks the patient lay apparently dead to the world, with involuntary discharges. Then, little by little, the symptoms improved, in inverse order to their onset, the coma going into mania, then into hysterical nervousness,

and the patient recovered entirely in the course of seven weeks. The temperature did not exceed 102.5.

The second case was almost identical with the one just cited. She was a young woman of 35 or 36, and the case occurred about four years later. It is unnecessary to go over the symptoms, as they were the same as in the first case.

The third was one in which there was some question as to the diagnosis. This case began more with brain symptoms than with joint symptoms, although the latter showed up in the first few days; but they were mild. The case went on to almost complete loss of cerebral function and then improved in exactly the same manner as the other cases. At the end of seven weeks, just as the patient, a young woman of 26, was beginning to recognize people, the symptoms again deepened and went through precisely the same cycle except that the patient did not swallow, so that we were compelled to feed peptonized foods through a tube for six weeks. As the other symptoms cleared away, there remained insanity, which lasted for several months. This gradually tapered off into headaches, and finally the patient recovered.

The fourth case, in a woman of 36, seen eighteen months ago, was more in the line of hyperpyrexia, in which the symptoms were very much more rapid, beginning with acute articular rheumatism of the ankle, knee and hip, with cardiac lesions, and accompanied at the start with hysterical symptoms, then mania, developing into coma, and rapidly showing vagus involvement, followed by weakness of the heart and finally death at end of sixteen days. Temperature in the case reached 105.

In the fifth case, a man of 54, seen last spring, the symptoms were those of acute pain of various larger joints and marked nervousness with complete loss of sleep, except as induced by morphin. Duration five weeks. Delirium and coma showed in the last three or four days and death came apparently from vagus involvement. Temperature in this case from 100 to 103.

Dr. George W. Webster:—I would like to refer to two points that were urged as objections to the view that rheumatism is an infection. One of these which Dr. Loeb referred to was the fact that Poynton and Paine had made many of their experiments or investigations on material obtained from the cadaver, and there is evidence, therefore, of this being a terminal infection. I might say that at least in one case where they have obtained a pure strain of germ, which they have cultivated, the patient is alive and well eight years after obtaining these micro-organisms from his body, so that it can not be regarded as a terminal infection.

Another point was the difficulty of obtaining cultures from the fluid obtained from the joints, this being urged as an objection. In this connection I desire to call your attention to a fact, well known to all of you, that in the ordinary tuberculous pleurisy you can not obtain the tubercle bacillus with any degree of readiness from the fluid, and that this fact is considered by clinicians and diagnosticians as the best evidence of tuberculous pleurisy, and in these cases of infection of the joints the micro-organisms are found not free in the fluid in the joints, but beneath the surface, just as in the heart they are found not in the circulating blood, but in the structures of the valves themselves.

Dr. L. M. Lóeb:—I think Dr. Webster misunderstood me. I do not believe that anyone has the hardihood to deny that rheumatism is an infection of some kind. The only point I wished to bring out was that the specificity of the organisms, isolated by Poynton and Paine, has been questioned a great deal. Most of their work has been done on the cadaver. Almost all the cultures have been isolated from the heart's blood. There are a number of cases in which they have found the organism in the living human being, but a great many other investigators have worked with as extensive material as they had and failed to find any trace of any organism. There are at least half a dozen men who have made blood cultures to the number of 20 to 50 cases, and they have failed to find the streptococcus or any other organism in the blood. The same is true of the cultures from the joints. As I have said, no one denies that rheumatism is an infection; the

only question that has been raised is whether the organism that Poynton and Paine have isolated is the specific streptococcus, and is different from the ordinary streptococcus pyogenes. Morphologically and culturally, there have been found no striking differences. Several years ago it was claimed that this streptococcus had the power of producing hemolysis, that is, turning the blood cultures a chocolate brown or violet color; but of late Schottmüller has found that other strains of streptococci will do the same thing, and even Walker in the last year or two has acknowledged that none of the differentiating points he mentioned several years ago have held their ground at present. Still there are many things that favor its specificity, especially the inoculation experiments of Meyer, in which he produced rheumatic joint changes by this organism in a large percentage of cases, while the ordinary streptococcus pyogenes and with other pus organisms they occurred very rarely. The only question is as to the specificity of the organism, and there are many men who claim that the infective agent is the ordinary streptococcus and not the streptococcus rheumaticus. Other organisms have been grown from rheumatic patients, and the question whether the streptococcus is the only pathogenic agent in the disease is still open.

Dr. Robert B. Preble:—I want to say a word or two in regard to the statistics of McCrae and the Anna Children's Hospital, to which reference has been made by Dr. Butler, who seems to be unnecessarily disturbed about them. In the articles many of the details were not given, so that one is forced to draw the inference that if the cases were not of more than average severity they would not have been sent to the hospital, and therefore we can not say from the figures that 95 per cent. of all children which show rheumatic phenomena are going to have endocarditis, but that a large majority who are sick enough to be sent to the hospital are going to have it.

In regard to the diagnosis, I do not think anyone to-day would have the hardihood to make a diagnosis of endocarditis upon the existence of a systolic murmur, because everybody knows that there are many conditions which can produce a systolic murmur, and unsupported by other evidence, such a murmur would be no evidence at all. I wanted to bring out this one idea, that if you have to do with a child who has rheumatism, and it develops a systolic murmur which is distinctly audible, is present for a long period, you should give the child the benefit of the doubt. It does not make any difference whether you are wrong about endocarditis or not, but take care of the child as if it did have endocarditis, and if you make any mistake you make it on the safe side. That brings me to the point that Dr. Babcock and others referred to, and that is rest in these cases, and that may mean rest for weeks or months, or even years, and you are not going to lose any thing by such patients having this rest. If you are in doubt about letting the child up, this week or next week, put it off until the following week, and do not be in a hurry.

Dr. Billings (closing the discussion):—Perhaps I may be wrong with reference to the use of aconite, veratrum viride and other cardiac sedatives in the course of these infections of the endocardium or pericardium; but, it seems to me, the chief thing is rest of the heart, and one secures that by physical rest. An ice-bag over the pericardium will slow the heart, and in children a few drops of some opiate, enough to quiet, will put them at rest, there is less risk to the heart than if one uses these drugs. These measures slow the heart by reducing its work. I want to testify to what Drs. Babcock and Preble have said of the long time which is necessary to secure a complete balance of the heart that has been infected, especially in children. Sydenham said that it takes a wiser physician to know when not to give than when to give a drug. The longer we practice medicine the more this comes home to us.

As to the use of salicylates, I did not speak of their dosage. They reduce temperature. They stop or allay pain, and, it seems to me, that is their chief value in rheumatism. If one has had the experience of having had an acute attack of rheumatism, and knows the exquisite pain from which one suffers, and the delightful ease that comes from a good dose of salicylate of soda, he will give

it to his patients. When I had acute rheumatism I took over 200 grains of salicylate of soda every day, and while it made my heart thump and my ears ring, I was happy. While I would not give a patient as large doses as I took myself, I would put him under the influence of it. It is a good idea to combine a neutral soda with it, like the bicarbonate, and I commonly give the plain salicylate of soda, to which I add 15 to 30 grains of bicarbonate of soda, and have the druggist rub up in each powder a minimum of oil of wintergreen, oil of peppermint or oil of orange peel, which gives it a flavor. The patient may dissolve the powder in charged water or in plain water. That is usually pretty well borne. If it irritates the stomach, milk may be taken before it, or some other food.

As to the use of the salicylates externally, I think we have had more or less experience with them, using the oil of wintergreen, which contains on an average 90 per cent., and while perhaps it is not absorbed in that menstrum as rapidly as it would be in lanolin, still there is evidence it is absorbed by examination and finding the salicylic acid in the urine, and it seems to give some relief. It is not as efficacious, however, as when given by the mouth. We have no specific drug or drugs for rheumatism. We have drugs that will cut the fever short and cut the joint manifestations short, and in doing that we shorten the course of the disease, but I do not think we can call such drugs specific.

THE ETIOLOGY OF ACUTE ARTICULAR RHEUMATISM.

GEORGE W. WEBSTER, M.D., CHICAGO.

The only point concerning the etiology of acute articular rheumatism on which there seems to be a consensus of opinion is that it is of infectious origin. The nature of the infectious agent or agents is still a matter of controversy.

In a paper¹ read before the American Medical Association in 1902, I reviewed some of the current literature and outlined the four principal views or theories of its etiology which then obtained. They were, briefly, first, the view of Gustav Singer, first published in 1898, "that acute rheumatism is not a distinct disease, but a modified pyemia, due to the action of the streptococcus pyogenes, attenuated in their passage through the adenoid tissues of the throat." Second, the view of Achalmé that "acute articular rheumatism is the result of a specific anaërobic bacillus." Third, "that rheumatic fever is not due to any particular organism, but is a particular reaction to varied infections. In other words, we may have a uniformity of lesions with a multiplicity of causes. The fourth view was that of Poynton and Paine "that acute rheumatism is an infectious disease due to a diplococcus, now generally referred to as the diplococcus rheumaticus."

My conclusions at that time were as follows:

1. Many organisms produce arthritis.
2. Probably all cases of acute articular rheumatism are due to infection.
3. Probably all organisms known to cause either acute articular rheumatism or other forms of arthritis also give rise to other pathologic conditions as well.
4. It would thus seem to be not merely a local infection or inflammation, but a general infection, the commonest seat of the principal lesion being the joints, but also involving the heart, both endocardium, pericardium and muscle, occasionally the meninges and other structures and caused by a diplococcus circulating freely in the blood. The diplococcus seems to be merely a germ capable of causing widespread inflammation, and the joints are included in its sphere of action. Just as in pneumonia, we may have a general infection with local manifestations or inflammatory reaction in the meninges, the pleura, the endocardium, pericardium, postnasal space, peritoneum, lymphatic and lungs, the latter being probably the usual site of the localizing inflammation.
5. It is quite possible that there is some hereditary diathetic or constitutional peculiarity, the nature of which is completely unknown to us, which may favor infections in general, and possibly that of rheumatic infection in particular.
6. That there may be varying degrees of susceptibility depending on exhaustion, depressing influences, as cold and the like, seems reasonable. These are the occasions and not the causes. They favor but they do not cause.

1. Journal A. M. A., Jan. 10, 1903.

7. That susceptibility varies greatly there can be no doubt. Whether this depends on alkali tension has not yet been demonstrated, but it seems plausible on the ground of variation in the bactericidal action of the blood. This may explain the value of alkalies in the treatment of rheumatic affections.

A more extended reference to the work of Poynton and Paine may be of interest. The view of Achalmé that it is the result of infection with a specific bacillus has not been substantiated. The attenuated pyemia theory has never been established and there are grave and seemingly insuperable objections to it.

THE DIPLOCOCCUS OF POYNTON AND PAINE.

In January, 1899, Poynton and Paine undertook the study of the bacteriology of rheumatism with the intention, if possible, of confirming the results of Achalmé. In this they failed and abandoned the attempt. In eight successive cases, however, they obtained a diplococcus which grew in streptococcal chains, which did not thrive on ordinary agar or on serum agar, grew indifferently on blood agar and appeared to grow best in a liquid medium of milk and bouillon, rendered slightly acid with lactic acid. These organisms were isolated in pure culture on three occasions, from the blood of patients during life who were suffering from acute rheumatic pericarditis; also from the pericardial fluid after death, from the valves of the heart and throat of the patient; fragments of granulation from the valves of the heart of human beings, and also from the joint exudation, heart blood, urine from the bladder and cerebrospinal fluid of inoculated rabbits. These organisms when inoculated into rabbits produce polyarthritis, bursitis and tenosynovitis, multiple non-suppurative valvulitis and pericarditis, plastic pleurisy and pneumonia, a condition of the myocardium analogous to that found in the human heart as a result of rheumatic carditis. There are multiple joint swellings, wasting and pyrexia, thus closely simulating rheumatism in the human being.

When these organisms are passed from animal to animal similar symptoms are produced, but there is a tendency to increase in the severity of the cardiac lesions with lessened severity of the arthritic lesions. The organisms were found, not on the surface, but in the interior of the valves. In one case of chorea the diplococci were found in the perivascular lymph spaces and capillaries of the pia mater and in some parts of the motor areas of the brain. In September, 1901, they reviewed the bacteriology of the disease and brought the number of cases up to eighteen. They take the ground that rheumatism is not only an infectious disease, but that it is due to diplococcus infection, and point out emphatically that "the most ardent bacteriologist does not pretend that the presence of a micro-organism explains all the phenomena of rheumatic fever."

The organism described by Poynton and Paine is undoubtedly the same as that previously described by Triboulet in 1898, and Apert and Triboulet in the same year, and by Wasserman and Malkoff in 1899. Litten, as the result of the study of two cases and the inoculation of many guinea-pigs says that he sees no reason why this diplostreptococcus should not be regarded as the cause of acute articular rheumatism.

In 1905,² Poynton and Paine, after reviewing the recent literature and giving further results of their work, repeat and emphasize their former opinion, that acute articular rheumatism is a specific infectious disease and that true cases are always due to the diplococcus rheumaticus. They have now reported 35 cases in rabbits in which this organism produced the characteristic lesions. These organisms have been repeatedly isolated from the lesions of rheumatic fever and have, with remarkable constancy, produced the lesions of that disease in rabbits and monkeys.

In Osler's *Modern Medicine*, vol. ii, Poynton, after a careful review of the various theories, says, "Acute rheumatism is a specific disease, and, so far as our knowledge goes, owns but one exciting cause, variously called a diplococcus, streptococcus, or micrococcus."

2. The London Lancet, Dec. 16, 1905.

The work of Beattie,³ Poynton and Shaw,⁴ Harris,⁵ seems to strengthen the probability that the diplococcus rheumaticus is the cause of acute articular rheumatism. In a recent paper, Cole,⁶ quoted by Preble in *Progressive Medicine*, March 1, 1907, says, after a review of the literature, "I greatly fear that we are not yet in a position to make any positive statements as to the etiology of this disease. It seems to me there are at least three possibilities: First, that acute articular rheumatism is a definite specific, infectious disease, the cause of which we do not know, and that the cocci which have been isolated were secondary invaders. Second, that there is no such specific disease as acute articular rheumatism, but that the cases grouped under this term are those of mild and moderately severe cases of general streptococcus infection, in which the joint and heart are generally involved. Third, that acute articular rheumatism is due to a special form of streptococcus, which at present we have no accurate method of distinguishing from the streptococcus pyogenes, but which, owing to the specific character of the lesions induced in a man, must possess special characteristics." Commenting on this, Preble says: "This appears to me a reasonable statement of our knowledge to-day." We thus see that the work of the last five years simply strengthens the probability that acute articular rheumatism is an infectious disease and that the nature of the infectious agent is still a matter of dispute, but that the investigations which point to the micrococcus rheumaticus as the exciting cause are numerous and of such a character as to assume the dignity of an extreme probability.

Symptoms.—The symptoms are such as would naturally result from an infectious disease in which the micrococcus circulates freely in the blood, may find lodgment in and cause inflammatory reaction of almost all structures in the body. If the term rheumatism be used in a broad, comprehensive sense to include all of the manifestations produced in all of these structures, then the difficulty of obtaining a satisfactory nomenclature becomes at once apparent.

The onset may be insidious and accompanied by malaise, irritability, nervousness, anemia, headache, sore throat, fleeting pains in the joints, epistaxis, loss of energy with slight rise of temperature, or it may be sudden with chill, fever, weakness, with severe pains in the joints and marked prostration. The clinical picture varies widely with the mode of onset, the number of joints involved, the severity of the infection, the occurrence of inflammation in structures other than the joints.

The temperature may be 101 to 102, or there may be hyperpyrexia.

The joints are red, inflamed, swollen, very painful and tender. Sweating, with peculiar sour odor may occur, and may be profuse.

The appetite may be very poor, the bowels constipated, the thirst may be great, and there may be marked mental distress with insomnia.

The urine is scanty, high colored, strongly acid, the chlorids diminished, the urates augmented.

The blood is commonly rapidly impoverished and the anemia may be marked or even fatal. The red cells are diminished during the acute stage. A moderate leucocytosis is almost always present and may be a marked increase. The characteristic diplococci may occasionally be demonstrated in the blood, but workers in this field state that this is exceptional and is also difficult. Aside from the common symptoms there may be disease of the nervous system as chorea, cerebral rheumatism and rheumatic spinal lesions; disease of the cardiovascular symptoms, such as carditis, pericarditis, endocarditis, arteritis and phlebitis; there may be disease of the respiratory system, such as tonsillitis, pleurisy, pneumonia, acute pulmonary edema, bronchitis; there may be cutaneous manifestations, erythema, purpura, a scarlatinaform eruption; and there may be symptoms referable to the digestive tract, the genitourinary tract, such as nephritis; and occasionally such manifestations as thyroiditis, mastitis, lymphadenitis, conjunctivitis and iridocyclitis.

3. British Medical Journal 1905, xi, p. 1510.

4. Transactions of the London Pathological Society, vol. iv, p. 126.

5. Transactions Chicago Pathological Society, 1905, vi, p. 303.

6. N. Y. Medical Journal, 1906, p. 334.

PATHOLOGY OF RHEUMATISM.

L. M. LOEB, M.D., CHICAGO.

In many cases the tonsils show the earliest signs of involvement. The gross and microscopic changes are usually those of the ordinary streptococcus infection. The peritonsillar tissues may also be involved, even to the degree of abscess formation. As has been noted, Meyer, and others with him, believe that the infective agent in all or nearly all cases enters the general circulation through the follicles of the tonsil. Menzer, who removed the tonsils of a number of rheumatic patients, found that streptococci had in three cases entered the blood through the peritonsillar structures.

The degree of joint involvement varies greatly in different cases. Like all of the other lesions due to rheumatism, the inflammatory processes about the joints are ordinarily non-suppurative. The appearance of pus usually indicates either a mistaken diagnosis or a mixed infection. The synovial membrane is greatly thickened by an inflammatory edema—there are collections of round cells and leucocytes and the endothelial cells present a cloudy swelling. Usually all the structures about the joint are the seat of similar inflammatory changes. The subendothelial capillaries are dilated and may rupture; the tissues become invaded by leucocytes, later by fibroblasts, which are in turn replaced by scar tissue. Streptococci are said to be found in large numbers in the subendothelial connective tissue. The fluid in the joint is increased in quantity, but not nearly to the extent to which one might be inclined to believe it. It is not at all unusual to find it impossible to withdraw fluid from a greatly enlarged knee-joint—in few cases is one able to get as much as an ounce. The fluctuation frequently obtained is usually not produced by free fluid, but by the edema of the surrounding structures. The fluid is somewhat less viscid than normal, contains small flakes of fibrin, and is slightly cloudy; microscopically it is found to contain some endothelial cells in a state of fatty degeneration and numerous polymorphonuclear leucocytes. In very malignant cases, pus is said to have been found in the joints. This has been noted particularly in young children. It never is thick, as in abscesses, but the fluid is mucoid or blood stained, and resembles pneumonic sputum. Practically all cultures made from the joints have proven sterile, my own invariably so in cases of rheumatism. Poynton explains the sterility of the joints by the fact that the leucocytes enter simultaneously with the bacteria and destroy them. In protracted cases or after repeated attacks of the same joint, the ligaments may become stretched and the ends of the bones hypertrophied, so that the joints are abnormally mobile and very prominent—this occurs not infrequently in the small joints of the fingers and hands. Very unusual cases have been described, in which the effusion was so large and the ligaments become so flaccid that luxation of the joint resulted.

The heart shows pathologic changes in the majority of instances. There is an acute parenchymatous myocarditis in practically all of the fatal cases, and it is found clinically in many of the others. Fatty degeneration of the heart muscle is characteristic of rheumatism. There are also localized deposits of fibroblasts, which result in the development of connective tissue. A rheumatic infection is the most frequent cause of endocarditis; almost all the endocarditides, non-ulcerative, of young individuals, indicate a preceding rheumatism. The endocarditis may appear in spite of little or no joint involvement. The mitral valves are involved most frequently, the aortic less often, the tricuspid and pulmonary quite rarely. The latter are practically never affected unless those of the left heart show advanced degrees of ulceration. Pure tricuspid and pulmonary valvulitis are extremely rare. Ulcerative endocarditis occurs in a small percentage of cases. When it is present, the endothelial lining is absent, the valves are eroded, and often the eroded surfaces are covered with thrombi, which may extend onto the auricular or ventricular wall. Microscopically the valves show a round cell infiltration and large numbers of strepto- or diplococci. Infarcts are found in the spleen and kidneys, not rarely cerebral emboli. More often the endocardium does not ulcerate. There is either a simple round cell infiltration in the edges

of the valves or the endothelium desquamates and the denuded areas are covered with thrombi, which become organized. The edges of the valves in consequence are thickened and the cusps shortened or adherent to one another. The anatomical changes about the heart are so similar to those of the joints that it has been said that in rheumatism the heart acts like a misplaced joint.

The serous surfaces, pericardium, pleura and peritoneum, are also frequently involved. All of these surfaces, when affected, show a plastic fibrinous or sero-fibrinous inflammation. Ordinarily the effusion is not large, unless there is an added transudate, consequent upon a cardiac insufficiency of coexisting nephritis. Thickening of the membranes or adhesions between superimposed surfaces usually result. Suppuration of the pericardium has been described, but is certainly a great rarity in rheumatism. Usually the pericardium is affected alone and the pleura and peritoneum involved by extension, if at all. There may, however, be a polyserositis, similar to that produced by the tubercle bacillus and spread through the circulating blood. Then all of the serous surfaces are involved simultaneously. Poynton claims in one such case to have isolated the specific diplococcus. Meningitis occurs rarely; though there are not uncommonly signs of meningeal irritation. The tendons undergo changes similar to those of the joints. There is sometimes permanent thickening and shortening on account of cicatricial infiltration.

The fibrous nodules, which occur in tendons, tendon sheaths, and subcutaneous tissues, at times, have given the type of rheumatism in which they occur the dignity of a special name—*rheumatismus nodosus*—are of special interest. They are rare in adults, but are said to be very common in children in England. Pediatricians in America do not meet with them so often; in England they appear to be of sufficient frequency to be of diagnostic value. Cheadle, who has studied them most thoroughly, describes three types:

1. Miliary nodules in the tendons and tendon sheaths.
2. A large type, which occurs in tendons, especially of the extensor muscles, where they pass over joints or at their points of insertion.
3. Still larger nodules—as large as a walnut—where the skin lies directly over bone, e. g., over the patella and malleoli. These nodules consist of round cells, which may either disappear or go on in their development to the formation of scar tissue.

The kidneys, liver, spleen and other viscera show the ordinary parenchymatous changes of acute infectious diseases. Fatty degeneration of the kidneys is also very characteristic. Neuritides, even optic neuritis, thromboses of superficial veins (saphenous, external, jugulars, etc.) are among the unusual changes.

The relation of Sydenham's chorea to rheumatism is well known clinically. Almost nothing is known of the pathology of chorea; too much speaks against the theory of multiple emboli to permit us to attach much value to the idea. Changes, such as have been noted about the red nucleus and basal ganglia in cases of Huntingdon's chorea, have not been found. The choreiform movements produced experimentally in England by inoculation of the streptococcus bore little resemblance to the true Sydenham. Within the last two years autopsies of chorea cases have been made, in which it has been claimed that there was pronounced dilatation of the capillaries, whose lumen contained large numbers of streptococci. These have been cultivated from the brain tissues. Similarly the skin diseases, so often associated clinically with symptoms of rheumatism, erythema nodosum and multiforme, have no known pathologic relationship. Cocci of various types have been found in the efflorescences, but there has been no successful attempt to cultivate an organism, whose cultures produced joint changes in animals. Likewise, there is no definite knowledge as to the bacteriologic or pathologic relationship between rheumatism and the hemorrhagic diseases—*purpura rheumatica*, *p. hemorrhagica*, or scurvy. It is not probable that they are very closely related, in spite of the fact that the joints show signs of involvement.

The blood shows a moderate polymorphonuclear leucocytosis. Otherwise there are no morphological changes except for a more or less pronounced secondary anemia. Much attention has been given to the chemistry of the blood, but the

only definite changes noted are a diminution of alkalinity, probably on account of the increase of formic and lactic acids. Even this does not appear true of all cases. It has been noted that the cultures of the streptodiplococcus of Triboulet form much acid and that the presence of formic acid was particularly striking. This has been used as an argument for the specificity of the organism. The urine is also highly acid, and formic acid has been found to be eliminated in increased quantity. Walker claims to have found the formic acid in rheumatic urine to be as high as .2 grams per day, while in health, according to von Jaksch, the total amount of all fatty acids does not exceed .05 grams (just one-fourth). The similarity of some of the manifestations of rheumatism to those of gout for many years caused it to be classed among the intoxications. However, if, as is likely, the joint symptoms, and those about the heart especially, are produced by the local action of a pathogenic agent, the metabolic changes become of secondary importance as not causing the disease, but being its products.

To sum up the pathologic changes, we have (1) a streptococcus infection of the tonsils and peritonsillar tissues; (2) an acute non-suppurative inflammation of the synovial membranes and surrounding structures; (3) a fibrinous or sero-fibrinous inflammation of the serous membranes, the pericardium and pleura being especially often attacked; (4) an ulcerative or more often benign disease of the endocardium and by extension or independently of the myocardium; (5) deposits of round cells in skin, tendons and muscles; (6) perhaps mycotic foci in the brain, producing chorea, meningitis and rheumatic hyperpyrexia.

CHICAGO MEDICAL SOCIETY.

Meeting of Nov. 13, 1907.

A regular meeting was held Nov. 13, 1907, with Dr. Robert T. Gillmore in the chair. Dr. Ralph W. Webster read a paper entitled "Toxemia from the Standpoint of Perverted Metabolism," which was discussed by Drs. Frank X. Walls, Joseph M. Patton, and in closing, by the essayist. Dr. Alex. C. Wiener contributed a paper on "The Treatment of Tuberculous Spondylitis," which was discussed by Dr. Edwin W. Ryerson, Dr. Liston H. Montgomery, and in closing, by the author of the paper. Dr. T. G. Allen followed with a paper on "Proteids in Infant Feeding; the Necessity of a Standard." This paper was discussed by Drs. I. A. Abt, Frank X. Walls, A. C. Cotton, Frank S. Churchill, and the discussion closed by Dr. Allen.

TOXEMIA FROM THE STANDPOINT OF PERVERTED METABOLISM.

RALPH W. WEBSTER, M.D., PH.D., CHICAGO.

(Author's Abstract.)

So uncertain have been the ideas regarding toxemia that it seems advisable to define this term. Toxemia is a condition characterized by the overloading of the blood with normal or abnormal products of food or of tissue metabolism. This condition is, therefore, purely endogenous in character and is sharply separated from those conditions associated with toxic symptoms due to exogenous products, as well as from those toxemic states arising in the course of infectious diseases. Excessive normal or abnormal activity of one organ may so influence the activity of other organs that a toxemia may follow as a result of perverted secondary metabolism. The close relationship or co-ordination of the various tissues of the body has been well treated by Starling in his assumption of the various "hormones."

Accepting then that the toxemia under discussion is endogenous in character, is usually non-bacterial, and is influenced by the inter relations of the many organs of the body, is there any basis for the belief that it is due to perverted metabolism of any organ or group of organs? It is reasonable to suppose, and definite proof can be given, that abnormal activity, that is, perverted metabolism of any organ, would result in the overloading of the blood with products, which may, *per se*, lead to various symptoms of the toxemic type or may so influence the activity of other organs that abnormal relations obtain. Moreover, the activities

of many organs, depending as they do on the presence of certain substances elaborated by other organs and passed by them into the blood stream, are influenced to abnormal activity by their absence due to disease or to perverted metabolism of the co-ordinated organs.

INTESTINAL TOXEMIA.

The activity of the intestinal juices is dependent on the quality and quantity of the food introduced, the quality and quantity of the juices themselves, the power of absorption, and the motility of the intestines. Any abnormality in any of these factors will lead to markedly abnormal decomposition processes. A direct effect upon the intestinal activity is observed after intake of a large amount of food. The digestive powers of the juices are pushed to the limit to take care of the excess, but unless abnormal motility of the bowels is present, this excess can not be handled. We thus observe an effort on the part of the bowel to overcome these effects. Diarrhea, under these conditions, is a conservative process, as without it the digestive juices cease to act, according to the law that an accumulation of the products of activity of an enzyme will retard or prevent further activity. Abnormal conditions of the digestive juices will lead to a lessened digestive, and hence, to a lessened absorptive power of the bowels. Without such conditions food has little energy-value and symptoms of under-nutrition slowly but surely appear.

Toxemia of intestinal origin is due to the absorption of abnormal amounts of normal products or to normal absorption of abnormal products. That the products of normal or abnormal decomposition in the bowel may exert some toxic action on the system is true, but we must not exaggerate these influences. To what extent and under what conditions may normal products of putrefaction and fermentation cause disease? The number of putrefactive products, which occur in the intestine only under pathological conditions and to which any toxic action can be attributed, is remarkably small. Skatol, indol, etc., may cause headache, neuralgia, neurasthenic symptoms, etc., yet symptoms of poisoning are evident only when a larger amount is injected than is formed in very abnormal decomposition. While it is true that abnormal decomposition in the intestines is associated with abnormal products, yet none of these products, so far isolated, have been proven sufficiently toxic to account for the general effects of such disturbances. The results observed following intestinal disorders are much more to be explained by the effects of the abnormal products upon the metabolism of other organs rather than by the direct effects of the products themselves.

HEPATIC TOXEMIA.

It is in the narrow space of the liver cell that we find localized the formation of glycogen from sugar, the conversion of the amido-acids and ammonium compounds into urea, the neutralization of extrinsic toxins, the conjugation of aromatic bodies with sulphuric and glycuronic acids, as well as the storing up of fatty acids and soaps. Any disturbance in any of these functions is promptly felt by the system as a whole. The antitoxic functions of the liver may be comprehended by recognizing a protective action in each of the numerous metabolic indications by which the functional activity of the normal liver cell manifests itself, and by seeing an intoxication in the disturbance of these functions. While it is difficult to say just how far other organs may be functionally influenced by the toxic action arising from the disturbances of the liver, there can be little question that certain toxemic symptoms may be manifested by a disorder in any of the hepatic functions. Normally autolytic processes are going on in the liver cell, which result in the formation of definite products. These are rendered inert by the same liver cell which produces them. In other words, the liver cell is capable of breaking down and resynthesizing its own constituents. These autolytic products are of the acid type and pass into the circulation unmolested, providing the liver is incapable of exerting a sufficient antitoxic effect. Thus arises a condition of acidosis, whose influences are fairly well known. The pathological changes associated with such processes are usually fatty in nature, as evidenced by the fact that in phosphorus poisoning, acute yellow atrophy, and in delayed chloro-

- form poisoning, fatty degeneration of the liver is associated with an increased output of amido-acids and acetone bodies.

A second series of changes which give rise to signs of hepatic toxemia are those associated with disturbances in the conversion of amido-acids, etc., into ammonia, and thence into urea. Here we find an ammoniemia along with irregular autolysis, leading to an increased acid formation either of the amino or oxy series. This condition is quite distinct from that discussed above and has a separate function of the liver to deal with.

Another class of hepatic toxemias is found in a low-grade infection of the gall bladder. I have recently seen, through the courtesy of one of our leading surgeons, a patient who has been treated for 10 months for dilatation of the heart without the slightest effect. On simple drainage of the gall bladder although no symptoms pointed to this organ, the cardiac symptoms became better and, within a few days had almost subsided, the heart being reduced to about normal size. This points to some obscure toxemia with the gall bladder as its source. We all know that the myocardium is extremely sensitive to untoward influences, so that the above assumption does not seem so far-fetched.

We must grant, therefore, that many metabolic perversions of the liver may lead to definite toxemias, although this may not always be manifested by a clear etiology.

RENAL TOXEMIA.

That toxemia of renal origin is unquestioned, is certain, but the cause of such a state is unknown. The theories advanced as to its causation have, for the most part, as a basis the idea of overloading of the blood with urinary constituents as a result of an insufficient kidney. One by one these substances have been abandoned until now we can not grant that any of them is specific in the etiology of this group of symptoms. A thorough inquiry into the localization of these substances and into their toxic action in cases of renal insufficiency is much needed. It will be necessary to ascertain how and to what extent glands, such as the thyroid and suprarenals, react to the intoxication; whether by insufficient or excessive secretion, or by the production or neutralization of the products of metabolism. When we are acquainted with all the factors which probably go to determine the appearance, progress, and prevention of uremia, it will no longer seem strange that it can not be correctly estimated or adequately explained either by the deficit in the metabolic balance or by quantitative analyses of the blood.

THYROID TOXEMIA.

The thyroid is of great importance in the general metabolic activity of the system. Where this organ is lacking, owing to disease or removal, we find a marked lowering of the general energy-relations, while in cases in which its function is exaggerated a great increase in the total consumption of energy is noted. There is no organ, with the possible exception of the working muscle, which exerts such an influence on the energy relations as does the thyroid. It is known that definite signs of toxemia follow both the excessive and deficient action of this gland, the varying result being more quantitative than qualitative.

CONCLUSIONS.

1. Toxemia, aside from that following the acute or chronic bacterial processes, is always of metabolic origin.
2. The toxemias under discussion are more the effects of a general metabolic perversion than of a direct organic disorder.
3. A specific toxemia, in the sense that it is due to a specific substance, is unknown in the class of toxemias treated.

100 State Street.

DISCUSSION ON THE PAPER OF DR. WEBSTER.

Dr. Frank X. Walls:—The paper that we have heard to-night is one that would require a good deal of thought and study before one could fittingly respond to it. However, I believe that the question of general metabolic intoxication has taken such advanced steps in the past few years that we must realize, particu-

larly in the domain of diseases of children, that these toxemias are among the most important and most frequent of the disorders we treat.

About a year ago Dr. Brenneman read a paper before this society on "Over-Feeding," in which he dwelt on the dangers that result from the taking into the body of excessive amounts of foods, and we find in children particularly that the disorders that formerly were considered to be intestinal are now considered to be by many, and those many the better thinkers in the profession, disorders that are not disorders of the alimentary tract, but diseases due to a perversion of metabolism. That the common enteric disturbances, so-called, that we meet with daily, are due to disturbances within the economy of the child rather than within the intestinal tube, I believe marks one of the greatest advances that has been made, particularly from a clinical and practical point of view. We meet with these conditions so commonly.

A child is taken more or less suddenly ill—at least, in the eyes of the family—with a high fever; with more or less disturbance of the alimentary tract; with signs of acute intoxication, which has been up to now considered as intestinal, and treated from a purely intestinal basis. If clinically we consider this case—and these are common cases—from another point of view, from the point of view of a disturbance of metabolism, and treat the child with a view of disintoxicating it, we will find that in almost every one of these cases the disturbance is entirely a metabolic one, in that our results, if the disturbance is not from the beginning a fatal one, will show that this disintoxication can be brought about by considering metabolism, so far as we know of these changes occurring in the infant. The greatest advance we have recently made in clinical medicine has been the appreciation of the rôle played by metabolic disturbances in causing intoxication.

Dr. Joseph M. Patton:—The importance of toxemias in clinical medicine has grown steadily in the last few years, but I think we sometimes realize inadequately the rôle that these toxemias play in very many conditions. A great difficulty is the inability of physiologic chemistry to identify any of these toxins with any specific form of disease. Why it is that in one instance of kidney trouble we have toxic degeneration of the myocardium, with its consequent physical changes, and in another case apparently of the same grade we find these changes are entirely absent, is one of the things we are entirely unable to explain. The fact that these degenerations of the myocardium do not entail lesions which are not curable in every case, shows that they must be due to some fault in metabolism. We see cases in which an extensive dilatation of the heart will occur rapidly consequent on a nephritic toxemia apparently, and yet under proper treatment such a condition will absolutely disappear, and that heart will go on for years without any particular trouble. So we also find that arrhythmic disturbances of the circulation, due in some cases to intestinal and in others to nephritic toxemias, are readily amenable to empirical medication. I say empirical because we do not understand the nature of these toxins. Again, in connection with toxic states due to disturbance of liver functions, we find rhythmic and dynamic variations of the circulation, which will respond to medication tended to stimulate the function of the liver. In this fact we find the philosophy of the statement of the old English physician who said he had given to a cardiac patient, in twenty years, ten thousand grains of blue mass, and with great benefit.

If we get away from the idea of specific forms of medication for definite varieties of toxemia, and base our therapeutics on perversion of metabolism as suggested by Dr. Webster, we will be likely to attain some measure of success in the treatment of these conditions.

Dr. Webster (closing):—I have not a great deal more to add to the paper I have read, other than to remark that it would seem, on the basis of the conclusions drawn in the paper, namely, that there is no such thing as a specific toxemia, to be useless to attempt specific treatment for any of the cases of the various toxemias treated in the paper. The general line of treatment would be, as Dr. Patton has mentioned, more or less purely eliminative and symptomatic,

leaving out entirely a specific kind of treatment which has been followed in many of these cases. This latter treatment seems to yield less reliable results than the former.

CONTRIBUTION TO THE TREATMENT OF SPONDYLITIS TUBERCULOSA.

ALEX. C. WIENER, M.D., CHICAGO.

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The following case was instrumental in originating a new method for successful treatment of tuberculous spondylitis involving the second, third and fourth dorsal vertebræ with pronounced deformity.

History.—Mrs. A. E., married, 54 years of age, had two children who were stillborn at full term, owing to the mother's very contracted pelvis. Had never had any venereal disease nor typhoid fever. Fifteen years ago she suffered a thrust in the back from the pole of a wagon. Within one year her back became gradually deformed. At the same time she was seized with attacks of asthma and rheumatic pains radiating from the back toward the neck and head. Three years of suffering gone by, she was supplied with a Taylor brace. After one year she was practically free from pain, and she enjoyed good health until in 1903 she passed through an attack of influenza. Since that time she was troubled with pains of a neuralgic nature, which emanated from the upper part of the back and ran down and up the spine into the shoulders and the neck. When first seen she described these pains as sharp and cutting, coming on suddenly, like lightning, which lasted a few minutes at the time. In April, 1906, I saw her in consultation with Dr. Peter Latz, in whose diagnosis of tuberculous spondylitis I concurred. The patient was in bed and could not move about without assistance. In December, 1906, I saw her again.

Status Præsens.—Short, stout woman, with an expression of great suffering and anxiety in her face. Pulse about 90, weak and irregular; temperature 100° (F.) in the forenoon. Length of body, 4 feet 10 inches; circumference of chest, 35 inches; of abdomen, 37 inches. Heart sounds normal; no arteriosclerosis. Stomach pendulous. Lungs apparently normal. Loud bronchial râles over both lungs. Deep and superficial lymph glands of the neck, palpable. Pott's deformity, as above stated. Liver enlarged, lower edge reaching down to below the umbilicus. Right kidney also palpable. Colon distended, ascending colon packed with feces. Gases felt rolling beneath palpating hand. Lower edge of ribs almost touches the crest of ilium. Both feet and legs edematous. Feet in spastic equinus position. Clonic contractions of both feet and legs every once in a while, which lasted a few minutes and caused agony.

The outlook for the recovery of this sufferer certainly was gloomy. Authority to follow there was none. For the text-books agree upon the hopelessness of just such situations. Any extension brace which has its abutment at the crest of the iliac bones would have been of no benefit. The fastening of a juremast by a plaster-of-Paris cast was also not to be considered, owing to the figure and internal derangements of the patient. Here I may be permitted to emphasize the great attention to be paid to the mental attitude of this class of patients. The majority are intellectual, highly sensitive, self-conscious, and very suspicious individuals. Any contrivance which renders their affliction as conspicuous as a juremast does is abhorred from the start. I have, therefore, dispensed with this medieval apparatus long since. The juremast deserves to be banished into the museum of obsolete surgical instruments. I trust that adoption of my trolley extension will cut off the last fathom of the juremast's existence.

The indications in this case were clear enough. First, the spastic reflex contraction of the muscles of the neck had to be permanently counteracted. This would have served two objects: (a) In relieving the pain; (b) in assuring better arterial and lymphatic circulation. Thus the local pachymeningitis as well as the edema of the cord, which are the forerunners of transverse myelitis, are effectually relieved. Second, the affection of the bronchi, of the liver, and the

patient's generally debilitated condition made physical exercise imperative. Third, the despondency over her helplessness and pains was daily growing, and something had to be done at once to occupy her mind and to inspire her with new hope.

There was no departure from principles generally accepted in my plan of treatment. Weight extension applied at the head is the only means of meeting all demands. But instead of making the pulley stationary, I mounted it on a trolley wire, so as to enable the patient to exercise while the weight was doing its work. Copper wire proved to be too elastic. So a steel wire was stretched through two rooms. On this ran two pulleys, twenty inches apart, which were connected by steel bars. In the same cases in which the upper pulleys were running, pulleys of the same circumference were fastened. Over this ran the rope on which the weight for the extension was suspended. This arrangement protects the patient from being hit by the swinging weight. The patient, in moving forward, moves the weight along, and the spine is permanently stretched, whether he moves about or sits down.

In this case, the legs being paralyzed, the patient, at first, had to be supported on both sides. The legs lagging behind were moved forward by the legs of the attendants. The result was astonishing. In two weeks the patient could take long steps herself without assistance. In three months she was able to walk on two canes, free from the trolley, and she is, since June, six months after the commencement of the treatment, able to enjoy outdoor life. Her general health has gained accordingly; the cough has ceased; the liver is decidedly smaller, yet she is still very excitable and nervous. She was not able to stand the strain of being presented to the Chicago Medical Society.

The trolley extension is not to be compared with other remedies where so often the truism is in order, *post hoc, ergo propter hoc*, or one swallow does not make the summer. From the nature of the affliction and the almost immediate relief that was found with the employment of the trolley extension, it is evident that similar cases must yield to the same treatment. In cases of fracture of the spine the trolley extension must be of value too, and ought to be employed wherever danger of transverse myelitis and decubitus exists.

Weir Mitchell and Motschukowsky, the eminent Russian neurologist, recommend weight extension in locomotor ataxia. Not every patient afflicted with tabes can afford to employ the Fraenkel method of exercise for recovery of coordination. Neither much time nor money is required to exercise with the weight extension, which ought to be regulated by the demands of the patient, ranging between five to twelve pounds. In this instance a great number of observations will have to be made in order to prove the value of the method as an adjunct in the treatment of locomotor ataxia.

DISCUSSION ON THE PAPER OF DR. WIENER.

Dr. Edwin W. Ryerson:—Tuberculosis of the spine in the upper dorsal region is so severe, so intractable a disease, that anything which will help us along, even a little, is certainly to be very much desired. It seems to me this is one of the most ingenious things I have seen for a good while. It is something new. I shall certainly try it the next opportunity I have. I have at present in my wards at the Cook County Hospital several adults with high dorsal Pott's disease, and I shall rig up an apparatus of this sort for those cases. It is a fact that these cases of paraplegia from Pott's disease tend in general to get well under favorable circumstances. It has been proven, beyond question, by the work of Goldthwait, and by the futile, abortive, and yet significant efforts of our old friend, Dr. Calot, in forcibly correcting these spines, that by overcorrection of the deformity the tendency is for marked improvement of the paralysis to take place. I have seen some fifteen or twenty cases of paraplegia, mainly in children, where for weeks and months, and in one or two cases for years, complete paraplegia has existed, and yet after placing the patient on one of the Goldthwait-Metzger apparatuses, the patient lying on the back, with the weight of the body forming counter-traction to bend down this knuckle (illustrating), almost immediate return of some motion and sensation took place. Sensation, however, is not frequently dis-

turbed in these cases. I remember a boy, who was paralyzed for eight months, yet who, ten hours after we had put on this apparatus, began to move his toes, which had been paralyzed for eighteen months. This is the only one of a number of cases. We cannot do that in high dorsal Pott's disease with any degree of ease, because we cannot hold these people by any form of apparatus that has yet been invented, except perhaps slowly by recumbency in bed. We can rig up Sayre's jury-mast, and Goldthwait's head supports, but we cannot produce any reasonable traction on the spine. We cannot get a sufficient grip on the pelvis to actually extend the spine on itself; but by weight and pulley such as this, we can in these high dorsal cases, where there is not so much compensatory or normal curve to be pulled out, produce a certain amount of extension, and this trolley apparatus is admirably suited for it.

The greatest difficulty in the realm of orthopedic surgery is in the upper dorsal Pott's cases. I have never succeeded in keeping any case from getting worse unless the patient is kept in bed on a curved Bradford frame for a long period of time. I have never seen any ambulatory brace or apparatus designed which would prevent these cases from getting worse. We can put on a plaster-of-Paris jacket, which will remove some of the weight, but in a child whose pelvis is illy formed, or an adult whose abdomen is pendulous, as in Dr. Wiener's case, suitable counter-extension cannot be obtained. The bed treatment is of the first importance, and it is impossible to obtain proper bed treatment in many cases, so I see a distinct future for this trolley method.

Dr. Liston H. Montgomery:—I would like to ask Dr. Wiener what, if any, constitutional treatment he gives in these cases?

Dr. Wiener:—I did not use tuberculin injections. An effort was made, however, to keep the bowels of the patient open by enema and suitable cathartics.

As to the difference between children and adults, the superior recuperative power of children versus adults is no more graphically illustrated than in tuberculosis of the bones. We know that children, as Dr. Ryerson has pointed out, will recover the use of their limbs after complete paralysis within two years. This can be shown in 83 per cent. of the cases, and what is going on is well demonstrated in many cases. The paralysis is not produced by pressure of the bones on the spinal cord, but the result of pachymeningitis, myelitis, and an edema within the substance of the spinal cord. Sometimes in these cases iodid of potash is an admirable remedy, but the best and most immediate relief comes from extension. This extension, however, is not to be applied in such a way that the child cannot breathe. It must have a chance to take in plenty of oxygen, and, furthermore, the child should enjoy an outdoor life, irrespectively of the season of the year.

Tuberculosis of any kind is intrinsically a non-hospital disease. These patients should be taken out of the hospital as quick as possible.

Weir Mitchell and Motschukowsky, the famous Russian neurologist, have advocated, in tabes dorsalis, permanent weight extension in a chair, particularly in cases where the ataxis is pronounced. I would be pleased to hear from any neurologist who has employed in hospital cases this apparatus as an experiment. It can be procured at but a small outlay.

PROTEID IN INFANT FEEDING; THE NECESSITY OF A STANDARD, AND AN ATTEMPT TO ESTABLISH ONE.

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(*Author's Abstract.*)

For many years proteid has been considered the most difficultly digestible constituent of milk and the most frequent cause of trouble in the artificial feeding of infants. It is now known that babies can digest skim milk (i. e. proteid), with comparative ease, often without dilution, so that this view of the difficult digestibility of proteids is rapidly changing among students of infant feeding, though the profession in general still hold to the older view. The fat of cow's milk is now considered by many pediatricists to be the offending element,

at least as often as the proteid. As it becomes better understood that babies are frequently less tolerant of the fats than of the proteids it seems likely that many will go to as unreasonable lengths in their fear of the fats as we used to go in our fear of the proteids. Just as fear of the proteids led to the giving of too little proteid so the fear of fat may lead to the giving of too little fat and as a necessary consequence too much proteid. To show how to avoid the giving of either too much or too little proteid is the main purpose of this paper.

The various methods of modifying the proteids of cow's milk had the effect of lessening the daily quantity below the normal amount required for growth and development. An examination of the schedules in most books on infant feeding will show that the amount of proteid prescribed during the first three or four months is as little (often less) proportionately as the adult requirement. This ought not to be, for the growing baby requires proportionately more proteid than the adult who has ceased to grow.

The dilution of milk with the idea of causing the curd to form in smaller particles would do no harm did we take the precaution to control the total quantity of whole milk given in the day, for instance, if a child requires .40 ounce of proteid in 24 hours the important thing is that it gets 10 ounces of a 4 per cent. proteid milk; whether this is fed in a 20 ounce, 30 ounce, or 40 ounce mixture is of far less importance. The dilution will depend on the infant's digestive ability. As nothing else can take the place of proteid in promoting the nutrition and repair of the active cells of the body it is plain that an insufficient supply of proteid must result in inadequate blood, muscle and bone, general failure of nutrition and lack of resistance to disease.

The fact that children may apparently thrive and gain in weight on a low proteid diet has often misled us into being satisfied with an insufficient proteid intake until too late we realize that damage has been done. To my mind, therefore, nothing is so important for the physician to rid his mind of as this fear of giving too much proteid, and nothing more important for him to acquire than the habit of asking himself, how much proteid is the baby getting daily? How much should he get?

Seldom is too much proteid fed in early infancy but it is very common to see infants over seven or eight months old fed three or four times as much proportionately as would be proper for an adult. While the objection to excess of proteid is not nearly so serious as to deficient proteid, yet the amount of unnecessary work thrown on the liver and kidneys must in time prove a serious handicap. How shall we avoid giving too little or too much proteid? By keeping within the limits of a minimum and maximum daily standard.

There are at least three ways in which to approach this problem of fixing a standard.

1. Determine the proteid excreted in the urine on a proteid-free diet. This represents the amount of proteid which must be ingested to maintain proteid equilibrium. Feed this quantity of proteid and then keep increasing the quantity until the excreted proteid begins to increase. The difference between the intake and the outgo is the amount needed for growth. The total per pound of the baby's weight is the amount needed to make good the waste and allow for growth.

2. If we may assume the proteid standard for an adult man at moderate work is about 2.5 to 3 per cent. of an ounce for each pound of his weight, and that the energy standard per pound for such a man is 18 to 22 calories or the equivalent of 15 to 19 per cent. of an ounce of sugar, it will be seen that the proteid is about $\frac{1}{6}$ of the total food, which is the proper proportion for an adult. Now if we further assume that the energy standard for a baby should be nearly twice that for a man, say 35 to 45 calories, and that the proteid in mother's milk is about $\frac{1}{9}$ of the total solids estimated as carbohydrates, then $\frac{1}{9}$ of the energy, 4 to 5 calories, should be obtained from the proteid, that is the proteid standard should be 3.5 to 4.3 per cent. of an ounce for each pound of the baby's weight and about 40 per cent. greater than the standard for an adult.

3. The study of a number of cases, in which the daily proteid consumed per pound by babies nursing their mothers has been carefully observed for months, gives us a proteid quotient of between 4 and 5 per cent. of an ounce. These results are, of course, not equally valuable, but by checking one method with another I have arrived at the conclusion that the minimum daily proteid quotient should be 3.5 to 4 per cent. of an ounce and that the maximum daily proteid quotient should be 5 to 6 per cent. of an ounce.

SIMPLE AND PRACTICAL APPLICATION.

One ounce of good milk containing 3.5 to 4 per cent. fat contains also about 3.5 to 4 per cent. of proteid, and an ounce and a half of this milk would contain 5 to 6 hundredths of an ounce of proteid. Since these are our minimum and maximum standards we may say that one ounce of milk in the day for each pound of the baby's weight is the minimum quantity for continuous feeding and that an ounce and a half of milk should be the maximum for continuous feeding.

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DISCUSSION ON THE PAPER OF DR. ALLEN.

Dr. I. A. Abt:—I was very glad to hear this very thoughtful and instructive paper. So far as these proteid values are concerned, I am not able to express an opinion on them because I have not carried on the work far enough. As I read the various reports from different parts of the world on infant feeding, it seems to me that we are going through an evolutionary period. Different men are still working in different directions. In this city, for example, some of us are still working along the line of the chemical analysis of milk and the percentage system of feeding. Others are working more along the lines of methods that are used on the continent.

So far as proteid feeding is concerned, quite a revolution has been brought about by the teaching of Czerny and Keller. They express the belief that the proteid causes no harm; that the fat produces nearly all the ill effects which are produced by feeding of cow's milk. They are the ones who in a chapter of their book, speak of the ill effects produced by proteid food, but if they had written that chapter fifteen years ago they would have been compelled to say that great harm was done by proteid feeding. To-day they are able to say that little or no damage is done by this food. But whether that is strictly true or not, it is difficult to say. At least, I am not prepared to say. Inasmuch as Virehow has said that every physiological type has a pathological prototype, it is a question whether some damage may not be done by proteid feeding. Hamburger, of Vienna, working along this line, says that damage need not be done to the intestinal tract or to the intestines themselves, but the combining of the proteids and the proteid molecule with the cell may cause metabolic disturbance. But Czerny and Keller say no, that it is impossible, and they quote from their chapter and say that the proteids do absolutely no harm. Working along the same line, Finkelstein refers to alimentary intoxication or intestinal intoxication. A more recent work, from observers in Munich, attempts to solve the problem in a unique way. They attempt to solve the whole problem of the disturbance of infantile nutrition underlying Ehrlich's side-chain theory. They have worked out an interesting and readable proposition. They begin by saying that Ehrlich once said that the workings of the immunity problem were to be compared to some of the metabolic processes which go on within the body. Then they go on to show that the intracellular metabolism is the important thing in the nutrition of the baby, in the diseases of the baby, and in the appropriation of the food of the baby. They say, as Dr. Walls referred to earlier in the evening, it is not what goes on so much in the intestinal tract, but what goes on with the metabolism within the cell. The cell does not bind the molecule, nor the proteid molecule, or the proteid molecule does not get into the cell by a process of diffusion, but it occurs in a sort of tropholytic process, comparing it to the hemolytic and bacteriologic processes, using the terms that are employed in speaking of Ehrlich's side-chain theory. In our nutrition we must have a receptor and complement, and the complement is taken up or ap-

propriated by the receptor. All this refers to the internal metabolism, and the appropriation of the food by the cell in the appropriate process.

The work of Moreau attempts to show that an infant that is fed by milk of the same species, that is, by homologous food or homologous proteid, thrives much better. It gains more in weight. If the infant be well, for instance, for the first few days, and then fails, very soon the serum complement rises and remains equally as great as the serum complement of a healthy adult.

Dr. Frank X. Walls:—This subject is one of the most interesting that can be brought before us, and I think Dr. Allen has done well to call our attention to the fact that only too often are children given too little proteid. There is certainly need for considerable proteid during the building time of life, and just what amount of proteid a child should have I do not know. This metabolic work is so difficult to carry out that I have never done any of it, but have followed much of the work that has recently been published. I believe that part of his paper should be emphasized, wherein it is pointed out that in many feedings too little proteid is administered to the child. It should be remembered that the proteid is the only element of milk that must be given to the child; that any other element in the milk, speaking now of food elements, might be left out of the milk, and its part replaced by one of the other elements of food, at least, for a long time, without any special injury to the child. Proteid must be given to the child if we would nourish it properly. Dr. Allen is right in emphasizing the point that when the child has not received a sufficient amount of proteid it is weakened in its resistance against disease. It does not follow, however, as he said, that a child who is not given proteid enough does not gain on the scales. Very frequently they do. The point should be emphasized that the food which may cause an increase in weight is not necessarily a good food. When Dr. Allen, however, tells us that there is a limit to the amount of proteid, and places it at a definite figure, I am not willing to go quite that far.

He mentioned gastrointestinal troubles, troubles with digestion and putrefaction. I think the reverse of what he has stated can be demonstrated; that the administration of large amounts of proteid tends to prevent the decomposition of food within the alimentary tract; that the administration of large amounts of proteid does not give rise to any of the clinical manifestations of indigestion. And that statement has not originated with anyone here. It is one that has been made by the authorities to which Dr. Abt has referred several times, and among them Czerny, Keller, Escherich and others. Most of the German writers on this subject are in accord with that statement, and say they have not had pointed out to them as yet any evidence of trouble from the administration of proteid in cow's milk. The troubles that arise from the excessive administration of proteids in adults is another question. Proteids given to adults, rich in purin bodies, have had supposedly a relation to gout, to diseases of an arthritic nature, but this does not hold, so far as it has been shown, with the proteid that is present in cow's milk. It has not been shown that there is danger from the use of large amounts of the proteid of cow's milk. On the other hand a diet of proteid alone cannot be given in large enough amounts to supply a child with heat and energy, as well as provide for its nitrogenous waste and cell growth. Skimmed milk, which is a proteid rich food, if given for any length of time, is not a proper food for a child. It is a harmless food, however, and it is the latter part of Dr. Allen's paper to which I would take some exception. On the whole, however, I would commend the paper very heartily, particularly that part of it in which he says we give too little of this valuable article of food.

Dr. A. C. Cotton:—I hardly thought of taking part in this discussion, but while listening to the paper and those who have discussed it, some thoughts have occurred to me.

First, we are all under obligations to the essayist for presenting this very important subject. Whatever way a feeder goes about his calculations in his study of the constituents of food must be valuable. I think, without exception, that all

experienced baby feeders to-day realize that the tendency in the recent past has been to ignore or undervalue proteids in the dietary.

Dr. Allen has presented the idea not only to writers and teachers, but to the profession at large who treat babies, that fats are known as a frequent cause of digestive disturbances, and that the teachings of two decades ago, that a paucity of fat led to certain nutritional disorders, principally rickets, had induced too heavy fat feeding in babies to the detriment of the digestive processes. The proteids were frequently blamed for indigestion, which proved, on closer observation, to be due largely to the fats of cow's milk, for many reasons well-known to the most of us, abnormal to the baby's digestive requirements.

In discussing baby feeding, we are too apt to forget that there are two questions for consideration. One is the nutritional feeding of infants, and the other the therapeutic feeding. Whether the theory presented by the essayist as to the amount of proteids that a baby of certain weight should receive is a sound one or not, I will say that the physician is confronted with the problem daily of how to feed a baby anything and keep it alive. Unfortunately, at this stage of development of the relation of the medical profession to the laity, the physician is not given charge of healthy babies, of normal babies, and it is the disordered infant that is brought to the physician, and he must study each problem, each individual case, separately. No rules of physiology that have been laid down will meet the requirements of all these pathological cases.

In regard to the feeding of proteids, the need for which is evident to all who feed babies, I will say that a year and a half ago in a paper presented before the Pediatric Section of the American Medical Association, I advocated the method of high proteid feeding, a method of inducing toleration of proteids, and Dr. Wentworth of Boston raised the question of the evil results of high proteid feeding. His criticism was very just at the time. It induced me to observe more carefully the effects of high proteid feeding, and I must say that I have not seen any ill effects from it. As has been stated by one of the previous speakers, if there are any effects they do not appear in the development of the child, and so far as we can estimate, from any metabolic processes, in the infant, there is no ill effect from excessive proteid feeding. There is positive evidence, however, on all sides of harm from giving a paucity of proteids.

As to high proteid feeding, some of the feeders have kept it up in spite of the tendency of the past two decades to reduce the proteids, to make tolerant the digestion of cow's milk. A noted pediatrician in Paris has fed whole milk in his clinic for more than twenty years, and he believes that if the milk is not diluted by such a thing as water, the gastric secretions will take care of the cow's milk.

Dr. Frank S. Churchill:—We are all much indebted to Dr. Allen for his interesting paper, and study of this most interesting subject.

There are one or two questions I would like to ask Dr. Allen. First, with regard to Chart No. 10, from how many babies are those averages made up, or from how many babies were the conclusions drawn? Second, with regard to Chart No. 6, I understood him to say that the proteid quotient of 8/100 was too high. Why too high? What is the standard?

With regard to what Dr. Allen said about anemic babies, and it being due to a low proteid diet, I cannot agree with him. I do not see how anyone who sees a large number of infants at dispensaries can make such a statement, because the babies who come to our dispensary clinics get, as a rule, a pretty high percentage of proteids. The usual home method of diluting milk is that of equal parts of milk and water. While the milk the children get is thus poor in fat, the proteid is well up, $1\frac{1}{2}$ to 2 per cent., yet how anemic and in what poor shape these children are when they come to us! It does not seem to me that their condition can be due to a low per cent. of proteid.

Another point that has not been touched on sufficiently in connection with the feeding of these infants is the weight. The more one sees of babies under any method of feeding, the more important does he think it to watch their weight, the most important single factor we have as a guide. But even weight should not

be taken by itself, but the whole general condition of the baby should be watched, and be a guide to us in the amount that we shall feed it, not only the amount in percentages, but the total amount in twenty-four hours. I still feed babies on percentage lines, and to me the American method of feeding by percentages is simpler than is the feeding by calories. I do not think it is right to imply that American observers do not pay attention to the total amount that is fed infants in twenty-four hours. They do; they regulate the total number of feedings, also the amount which they feed at each feeding, that amount varying with the different ages, and having been determined from an enormous amount of clinical experience, and from anatomical studies of the size of the stomach at different ages.

Dr. Allen (closing the discussion):—With reference to the questions asked by Dr. Churchill, regarding the charts, I will say that in Chart 10, which shows the daily proteid, the weight of the baby and the proteid quotient obtained by dividing the daily proteid by the weight, the figures are the average results obtained in the study of eight cases, all healthy infants, and nursed by their mothers. The amount of milk was determined by weighing the infant before and after every nursing during the entire period of observation, which in one case was 9 weeks, in another 11 weeks, and in all the others 20 weeks or longer.

In Chart 5, where I have shown that the baby was getting 8/100 of an ounce of proteid for every pound of its weight, i. e., the proteid quotient was 8, Dr. Churchill asks why I consider that too much. First, without taking my work into consideration, but comparing this proteid quotient with the only standard we have had heretofore, viz., that for an adult, we find that this baby was being fed between 2 and 3 times as much as the adult requirement. A liberal allowance for an adult is 2.5 to 3 hundredths of an ounce, so that after making an ample addition to this, say 50 per cent., to allow for growth, 8/100 of an ounce for a baby seems unreasonably high.

Second.—As I have tried to show, all the proteid ingested above 4/100 or 5/100 of an ounce to the pound can not be utilized like the 4/100-5/100, but must be oxidized like the sugar to produce heat and energy.

Now we know that proteids are not easily oxidized, so that instead of getting urea, as we do when a proper amount of proteid is fed, we are apt to obtain large quantities of oxidation products intermediate between proteids and urea when a large excess of proteid is fed, and their abundance may interfere with their complete excretion. In short, metabolism is interfered with and the abnormal, incompletely oxidized proteids circulating in the blood and tissues bring about a state of things either analogous to or constituting a toxemia.

While it is true that all anemic infants are not fed on a low proteid diet, it is also true that all low proteid fed infants are anemic, so that perhaps we are all agreed on this point.

With regard to the tendency to feed too little proteid we seem to be pretty well agreed. With regard to feeding too much proteid I expected you would not all agree with me, because I know you are aware of the European opinions in regard to this, but I must say they have never appealed to me. I have always felt that there is a limit beyond which it is dangerous to feed proteids, that just as we may have babies gaining in weight with too little proteid and do not see the injurious effects until late, so we may not see the harm in feeding large quantities of proteid until some time has elapsed. While I may not have satisfactorily proven this, as Dr. Walls suggests, I am convinced that some of the toxemias I see are due to these incompletely oxidized proteids.

Owing to the fact that we rarely find only one of the solids of the milk, fat, proteid or sugar, fed for a considerable length of time, we are unable to determine which is the cause of the toxemia, but I have seen cases in which the proteids were the probable cause.

I am free to say that I believe most children will tolerate an excess of proteid alone as well as an excess of either carbohydrate or fat alone, but I should like to have you make observations on the effect of a high proteid with a low non-nitrogenous diet. But whether we are agreed that there is a limit to the tolerance of

proteid or not we know that there is a limit to the quantity that can be used to advantage and that any more than this is a disadvantage. The important thing I should like to leave as clear as possible is that I have tried to establish another simple standard in infant feeding, a standard more important, I believe, than the energy standard and far easier of application.

Meeting of Nov. 20, 1907.

A joint meeting of the Chicago Medical Examiners' Association and the Chicago Medical Society was held Nov. 20, 1907, with Dr. J. Allen Patton in the chair. Dr. Geo. W. Webster read a paper on "Cardiac Inefficiency," which was discussed by Drs. L. H. Montgomery, W. K. Harrison, E. L. Hayford, J. Allen Patton, Geo. W. Hall, and Dr. Webster, in closing. Dr. E. Fletcher Ingals read a paper on the "Diagnosis of Infections of the Lower Respiratory Tract," and Dr. Bertram Sippy read a paper on "The Significance of Hyperchlorhydria." Dr. Sippy's paper was discussed by Drs. Mack, Portis and Moore.

DISCUSSION ON DR. WEBSTER'S PAPER.*

Dr. Liston H. Montgomery:—As Dr. Webster has covered the ground pretty thoroughly, there is little to add to what he has said. However, we all recognize that many of the essential features of a life insurance examination are determined before the application reaches us. We inquire of the applicant if he is addicted to alcohol, the use of narcotics or tobacco, and how much, or whether he has suffered from any disease whatever bearing on his subsequent health, and we ascertain many other things that the writer referred to. We must know beforehand whether the applicant has had jaundice, bronchitis, gallstones or influenza or any other disease; then we auscultate the heart and organs of respiration. If we were to examine the applicant and try to ascertain all the details mentioned by Dr. Webster, the examination in some instances might last all day. Experience and practice guide us in physical diagnosis, as well as the field of the medical examiner, and we close our medical examination by making a careful urinalysis of the individual or applicant.

Dr. W. K. Harrison:—I wish that this paper might be placed in the hands of all medical examiners for life insurance. I am certain that in many cases the routine examination of the heart does not reveal its true condition, and that, in the majority of papers, we have a true report of the conditions present. A review of the mortality records of insurance companies and societies will confirm this statement. The examinations are too superficial. It is performed in a perfunctory way, without realizing the gravity of the verdict to be based on the report.

Dr. E. L. Hayford:—Dr. Webster has given us a most excellent résumé, and I heartily agree with him. I believe it would be money well expended by the insurance companies if such an article as this could be placed in the hands of every medical examiner. I believe I have not had many instances of weak heart escape me, but I am sure that there are many such cases and that they continue to live, notwithstanding our failure to recognize them. I am sure that most ordinary conditions are recognized, but many examiners are careless in carrying out such a method as Dr. Webster referred to and, therefore, often fail to detect these inefficient hearts.

This paper ought to have a far-reaching influence among men who are responsible for recommending or declining applicants for insurance.

Dr. J. Allen Patton:—This paper is of value, especially in cases where a physical examination is essential. The routine examination of the heart is not carried out as it should be and perhaps many cases of inefficient heart are passed in an ordinary examination.

Dr. Geo. W. Hall:—If by the term inefficient heart Dr. Webster means an incompetent heart, I should think that the medical examiner would not be called upon once in a thousand times to examine such a case. For in such a condition

* For text of the paper see page 134.

the general appearance of the patient would be sufficient to warn the examiner of the possible conditions present. I believe that considerable stress should be placed on the character of the pulse in making such an examination of the heart, as it is frequently a good guide to some heart lesions previous to auscultation.

Dr. Webster (closing the discussion):—I am not a life insurance examiner and did not know, as stated by Dr. Montgomery, that the agent makes the inquiries for you regarding the patient's antecedents and personal history. If that is the case, I do not see the necessity for an examiner to do this. The examiner should be familiar with the cases which do and may lead up to the breaking down of the heart. A murmur may not be present; the dangerous hearts are murmurless, but that heart may be working up to the limit.

I spoke of the pulse in the paper, but the important point is that you should not merely be able to recognize the condition of the heart by the pulse, but you must be in a position to recognize in the body those conditions which are going to influence the heart and perhaps take the man's life. The heart may at the time be doing good work, but you ought to be able to read the "handwriting on the wall" and be familiar with all the conditions that may lead to inefficient heart. If you only want to know the condition of the heart at the time of the examination, you are like the ostrich hiding its head in the sand. You must know not only the condition of the heart at the time, but also know what it will be in the future.

DISCUSSION ON DR. SIPPY'S PAPER.

Dr. M. H. Mack:—There is probably no disease of the stomach which is more confused than hyperchlorhydria. The condition generally reacts quickly to dietetic treatment, but the majority of physicians deem it necessary to use much medicine. I follow the treatment outlined in the majority of cases, and the result usually is pleasing, coming on in about 4 to 6 weeks. Occasionally I find an obstinate case, but such cases are uncommon. Constipation is a very frequent complication in these cases. I do not use cathartics of any kind under such conditions, but obtain relief by the use of colonic lavage.

It is not unusual to have a patient suffering from a marked degree of hyperchlorhydria and then at the first examination of the stomach contents, after a test meal, fail to find any acid present. The mental effect produced by the use of the stomach tube is the cause of this absence. Repeated tests will reveal the true conditions. I use very little medicine, a little bicarbonate of soda; that is all. The dietetic treatment outlined in the paper will give the best results.

Dr. M. M. Portis:—The ordinary hyperchlorhydria will resolve itself, but unfortunately a number of these cases are accompanied by hypersecretion. The fasting stomach contents examined in the morning will show 50 to 120 c.c. of highly acid fluid. Such cases may or may not show the clinical manifestations of ulcer. The work of Pawlow indicates that no special excitants of the gastric juice occur. He found that milk, meat, potato and various vegetables do not excite a greater per cent. of gastric juice any more than similar quantities of water would. The only exception noted was meat extracts.

Experiments I have made in the past five months have shown me that vegetables of different types, especially spinach, carrots and potato, cause as great a per cent. of secretion as do meat and milk, but, whereas meat will cause secretion to continue for 6 to 8 hours, a similar amount of vegetables will cause secretion to continue for 1 to 3 hours. In the selection of a diet it would seem wise to emphasize the choice of foods that decrease the time of secretion rather than one selected with reference to stimulation. Of course, the patient will complain of more pain when he is fed on a vegetable diet than he would on an albumin diet, but it is better to suffer a little pain while the stomach is secreting if the duration of secretion could be decreased. The acidity can be controlled, in part, by the administration of bicarbonate of soda, which also has a checking influence on the amount of secretion of hydrochloric acid.

The giving of fats is, I think, important. Fleiner found that giving a little oil not only relieved the patient of pain, but it also decreased the amount of

secretion of hydrochloric acid. In the work on dogs it has been found that, whereas free HCl after feeding would begin in from 5 to 6 minutes, if fats were given also HCl would begin only after 20 to 30 minutes. Cream and butter fats operate in the same way.

Dr. E. R. Moore:—I wish to emphasize the importance of giving a vegetable diet. The giving of meat induces the formation of hydrochloric acid. We have had this experience in our clinic over and over again.

CHAMPAIGN COUNTY.

The Champaign County Medical Society held its regular monthly meeting in the parlors of the Hotel Beardsley, Jan. 9, 1908, at 1:30 p. m. Meeting was called to order by Dr. J. S. Mason, President. The program was as follows: "Ocular Manifestations of Extraocular Diseases," Dr. H. V. Wilson; "Irregular Types of Pneumonia, with Report of a Case," Dr. D. E. Yantis. The papers presented were well written and brought out a very full discussion. After the reading and discussion of papers the society adopted resolutions commending Governor Deneen's idea of establishing a state sanitarium for the treatment of tuberculosis, also the new methods introduced in the treatment of the insane. An agreement also was made with the J. F. Burnham Hospital to turn over to the hospital all the fees, both medical and surgical, received from the county for the treatment of paupers.

CHRISTIAN COUNTY.

The Christian County Medical Society held its semi-annual meeting in the County Court room in Taylorville, Jan. 16, 1908. The meeting was largely a business meeting, there being only three papers read. The first by Dr. T. A. Lawler on the "Phenylhydrazin Test for Sugar." The doctor compared this test with others and showed the peculiar crystallization under the microscope. Dr. A. F. Turner read a very interesting paper, "From Miracle to Medicine." Dr. Wm. T. Bridges, of Stonington, read an excellent paper on Puerperal Eclampsia. The newly elected officers are: President, Dr. J. H. Dickerson, Taylorville; vice-president, Dr. C. L. Carroll, Taylorville; secretary-treasurer, Dr. D. D. Barr, Taylorville. Alternate delegate (to serve one year with Dr. Jesse P. Simpson, of Palmer), Dr. A. F. Taylor, Taylorville. Censors, Drs. J. N. Nelms, Taylorville; Wm. T. Bridges, Stonington; Jesse P. Simpson, Palmer. Medicolegal committee, Dr. C. L. Carroll. Committee on program and scientific work, the president and secretary, aided by Dr. Jesse P. Simpson; Arch I. Gibson, Morrisonville; Albert Field, Stonington; Campbell A. Stokes, Edinburg; F. J. Eberspacher, Pana. New members elected to the society, Dr. Oliver L. Crow, Assumption; Dr. J. F. Hall, Assumption; Dr. N. Allen Crouch, Assumption; Dr. Roscoe C. Danford, Pana; Dr. Albert Field, Stonington; Dr. G. W. Milligan, Edinburg; Dr. Raymond E. Holben, Mt. Auburn. We now have 41 members out of the 50 practicing physicians of the county.

CLARK COUNTY.

The Clark County Medical Society met in L. J. Weir's office at 2 p. m. Members present: Drs. Bradley, Prewett, Burnside, Johnson, Mitchell, S. W. Weir, Ryerson, Smith, Ryerson, L. J. Weir; visitors, Drs. A. S. Phelps and C. R. Phelps. The following resolutions were unanimously adopted:

Resolved, That we are in favor of providing an endowment for the scientific study of the criminal, pauper and defective classes, with a view to lessening social evils, by investigation of their causes.

Resolved, further, That copies of this resolution be sent to our representatives both in our state legislature and in congress.

Reports of Cases.—L. J. Weir reported a case of mitral regurgitation, in which the usual treatment has not relieved the man in the least. Infusion of digitalis and nitrate of potash was suggested. Dr. Johnson reported a case where, in the

latter weeks of pregnancy, the amniotic fluid escaped gradually and finally the child was born and lived; also reported a case of exophthalmic goiter. Dr. Burnside reported an interesting obstetrical case, in which a mole was finally discharged and case recovered. Several practical suggestions were offered in the discussion of these cases.

Dr. L. A. Burnside read an interesting paper on venereal diseases, discussing gonorrhea, cause, symptoms and treatment, and dwelling on treatment in detail; then syphilis was considered systematically. The essayist thought gonorrhea caused more distress than all other contagious diseases combined, and suggested the regulation of prostitution. The paper was well received and discussed thoroughly, the treatment receiving the most attention. Injections in gonorrhea were advised by most all, one being careful not to carry gonococci to the posterior urethra by having patient sit on folded towel so as to secure pressure on urethra. Mild antiseptic solutions in the beginning and astringents late in the course of the disease. A few are using irrigation. All employ medicine by mouth, acetate of potash or other alkalies. Some use cubebs, copaiba, etc.

In the treatment of syphilis the size of the dose of mercury and iodid of potash was considered to be very important. It should be small enough and large enough to control the disease. The early treatment was properly emphasized to prevent the late and serious sequelæ. The points made in the discussion were practical and valuable. The interest taken was intense, continuing the meeting until after dark.

The Program Committee suggested subjects for a few meetings in advance, which, after discussion, it was considered best to accept the subject of obstetrics to be presented by Dr. Prewett for the next meeting, and at that time to consider other subjects. Therapeutics was thought by some to be of enough importance for a year's study. Upon motion and second it was unanimously voted to have a banquet at the next, which is the annual, meeting.

CRAWFORD COUNTY.

The Crawford County Medical Society met in regular session at the Carnegie Library in Robinson, Jan. 9, 1908, at 1:30 p. m., with the vice-president, Dr. A. L. Lowe in the chair. The following members were present: Drs. Frank Dunham, I. L. Firebaugh, C. E. Price, A. G. Meserve, LeRoy Newlin, A. L. Lowe and H. N. Rafferty of Robinson, C. H. Voorheis and J. B. Cato of Hutsonville, and J. A. Ikemire of Palestine. The address of the afternoon was by Dr. C. E. Price on The Acute Diseases of the Respiratory Tract. The subject was presented in a very clear and forceful manner and elicited quite a general discussion. Dr. I. L. Firebaugh exhibited a convalescent case of gonorrheal ophthalmia in a babe of three weeks, in which no prophylactic measures had been used, but which had responded nicely to active treatment.

EDWARDS COUNTY.

A regular meeting was held Oct. 15, 1907, at Albion. Cases were reported by Drs. H. L. Schaefer, of West Salem, and J. S. Williams, of Albion, and papers on Typhoid were read by Drs. Bing, of Browns, and Buxton. Dr. L. J. McCormack, of Bone Gap, was elected secretary.

DIFFERENTIAL DIAGNOSIS OF TYPHOID AND MALARIAL FEVERS.

W. E. BUXTON, M.D., ALBION, ILL.

Typhoid fever, enteric fever, eruptive fever and I may say classical fever, is a specific disease from specific typhoid bacilli, taken into the system from various sources of infection, germinated and fostered from Peyer's glands, and runs a determinate course, with a few well-defined and pathognomonic symptoms. When once fortified behind the congested and swollen follicular breastworks of Peyer, it can seldom be aborted. Whether coyly caressing or in dead earnest about his business, it usually gets in about 18 to 30 days in all places and at all times of

the year; has withstood bombardment through the dark ages of the black-coated tongue and sordes with the tympanitic drum-like abdomen, has resented all kinds of destructive warfare and, finally, when gentleness and coaxing came upon the scene with its modest means and cooling, sanitary influence, the flag of defiance was lowered. Hence a modified typhoid fever for the past few years.

Malarial fever is a separate and distinct, as well as a specific, disease, with no relation to other fevers, although it may co-exist in the same individual at the same time. Its periodicity stamps it as independent. It is due to a germ that is air-borne, and enters possibly by inoculation. Never fails to make itself at home, and it is known when it comes. Can be aborted and is subject to control by medicines if taken in time. But a loss of time will give it opportunity to associate itself with an unfriendly rival: "a hybrid, a mongrel bastard," pardon this homely expression, but I have coined the name hybrid as a product of the joint causes of typhoid and malarial fevers, and may be properly styled or called typho-malarial fever, continued fever, slow fever or a typical fever. While it may claim kinship to typhoid and malarial fever, still it is an independent and has no legal right to relationship.

It has often, and to the injury of the patient, been mistaken for these fevers, and of late years I believe it the most common idiopathic fever known to us; like the poor, it is always with us. It is equally at home in an epidemic of typhoid or malarial fever. If we treat it as typhoid we certainly will be disappointed as to results. If we treat it as malarial and get in our calomels and quinin in regular style, we will possibly be called on to face our own mistake later in the form of intestinal hemorrhage. It appears sometimes in a mild sporadic form, here and there a case, or, like a tornado of destruction, it swoops down on a family or a town or a neighborhood, leaving death in its path, as has been my misfortune to see at different times.

In modern typhoid fever we find our patients in somewhat the condition of man's plan of salvation. The symptoms, the plans are not all alike, they are not in notation nor do they follow in order; symptoms, like muscles and nerves, have no names written upon them; they must be located. In typhoid the patient is nervous, shaky voice and a little overtoned, with a peculiar odor from his breath, or will soon develop, that is pathognomonic to the trained diagnostician; for several days loss of energy and appetite; first day temperature 99, pulse 75 to 100, headache, mind dull and apathetic, surface uniformly warm, abdomen swollen, tympanites, iliac tenderness, and gurgling, diarrhea and a peculiar bad odor; ochre discharges with flocculent or white specks floating in it; tongue has white fur and trembling, subsultus tendinum, delirium, intestinal hemorrhage late and in convalescence. Nose bleed, urine has traces of albumin, course and duration typical; one attack usually gives immunity to a second attack; can not be aborted.

Malarial Fever.—Occasion abrupt chill, first day temperature 103 to 106. Pulse 100 to 120. Periodical, abdomen tumid, surface temperature uniform, no tympanites, no gurgling, no iliac tenderness, thick yellow fur on tongue, no trembling, urine scant and yellowish red, course and duration subject to treatment; one attack predisposes to another; intestinal hemorrhage very rare, nose bleed rare, quinin a specific, may be intermittent or remittent. Such is my experience with true typhoid and true malarial fever, and let me, in conclusion, diagnose this hybrid or atypical fever, which I am persuaded to believe, and my experience has impressed me to the opinion, is the fever that most of us diagnose and treat as typhoid.

The accession abrupt. No loss of vitality in a forming stage, rarely a chill. First day's temperature 102 to 105, pulse 120, mind clear to the very last, extremities cool, abdomen hot, no tympanites, no iliac tenderness, no gurgling, the belly wall is rather flat or flabby, constipation, tongue changed but little and no trembling, possibly a yellow fur, no delirium, no subsultus, no nose bleed, intestinal hemorrhage as early as the second week, no albumin in urine, course and duration uncertain and atypical, may run with a morning remission and after-

noon temperature of 103 for 30 days. May have this fever several times, can be aborted; intestinal antiseptics, sulpho carbolates, passiflora, and sedatives with castor oil is almost a specific in connection with the tepid bathings and the wet pack to the bowels.

EFFINGHAM COUNTY.

Effingham County Medical Society met Dec. 10, 1907, and elected for the year 1908 the following officers: George Housmesser, president, Shumway; first vice-president, C. M. Doty, Edgewood; second vice-president, M. E. Kepner, Laclede; secretary, C. F. Burkhardt, Effingham; treasurer, I. W. Goodell, Effingham; board of censors, J. N. Matthews, Maroa; J. H. Walker, Effingham; C. F. Burkhardt, Effingham; G. M. Baker, Altamont; T. J. Dunn, Dieterich; delegate, C. M. Doty, Edgewood; member of the medical defense committee, T. J. Dunn, Dieterich.

FULTON COUNTY.

The forty-first meeting of the Fulton County Medical Society met in the Churchill House in Canton, December 3, and in the absence of President Blackstone and Vice-President Cluts, Dr. Sutton was called to the chair.

The following resolution, presented at the October meeting, was on motion of Drs. Connelly and Blackburn, adopted as Sec. 7, Art. 5 of the Constitution:

Resolved, That it is the sense of the Fulton County Medical Society that any member entering into contract work either medical or surgical for a less price than that prevailing in the community in which the contract is made shall be deemed not in good standing in the society.

PAPERS.

"The Surgical Diseases Caused by Pneumonia," S. C. Stremmel, Macomb. "Etiology and Pathology of La Grippe, Pleurisy and Pneumonia," F. C. Robb. "Treatment of Pneumonia, La Grippe and Pleurisy," S. A. Oren. "Complication and Sequelæ of Pneumonia, La Grippe and Pleurisy," P. H. Stoops. "Tonsillitis," H. H. Rogers (read by the secretary). "Bronchitis," T. C. Hays. Active discussion followed.

We have had many good meetings, but this one without question was the most interesting and profitable in the history of the society. Drs. Shallenberger and Stoops moved a vote of thanks to Dr. Stremmel that was unanimously adopted. A communication from the ILLINOIS MEDICAL JOURNAL was read. Those present were: Sutton, Blackburn, Shallenberger, Robb, Hays, Connelly, Ray, S. A. Oren, Stoops, Fleming, Chapin, Ewan, Regan, Simmons, Zeigler and S. C. Stremmel of Macomb.

D. S. RAY, Secretary.

GALLATIN COUNTY.

The first quarterly meeting of the Gallatin County Medical Society met in Masonic Hall, Ridgeway, Jan. 8, 1908, with the president, Dr. Riley, in the chair. Dr. Combs read a very valuable paper on "Erysipelas," giving his experience with this disease during his practice of nearly fifty years. This paper was discussed by all present. "Medical Ethics," by Dr. Riley, was well presented. Dr. W. W. Collins, Junction, and Dr. E. A. Greene, Ridgeway, were elected members of this society. On motion, Drs. Sherman, Capel and Bowling were appointed as a committee to draft resolutions in regard to patent and proprietary medicines. Dr. Combs was elected a member of the judicial committee. The following officers were elected for the ensuing year: President, Dr. Paul Sherman, Shawneetown; vice-president, Dr. Geo. W. Combs, Ridgeway; secretary and treasurer, Dr. A. B. Capel, Shawneetown. Meeting adjourned to meet at Shawneetown on the afternoon and evening of April 8, 1908.

LAWRENCE COUNTY.

The Lawrence County Medical Society held its annual meeting in the City Council Chamber at Lawrenceville, Ill., Monday, December 2, with the following members present: Drs. B. F. Hoekman, W. M. Friend, O. M. Turner, A. G. Mountz, C. J. Sprinkell, H. V. Lewis, R. R. Trueblood and Charles P. Gore. Dr. A. G. Mountz of Chauncey read a very interesting paper on Bronchopneumonia. Some valuable and instructive points were brought out in Dr. Mountz's paper. This paper was ably discussed by the members present, each citing cases of their own, giving the treatment and management of each individual case, showing that each case presents its own peculiar problems, and calling forth the best judgment and skill of the physician. Dr. O. M. Turner of Sumner read a valuable paper on "Pneumonia in Children." The doctor's paper was full of practical points told in a practical way. Dr. B. F. Hoekman lead the discussion, followed by H. V. Lewis and others. The next subject on the program was a symposium on Typhoid Fever, to be led by Dr. J. B. Bryant of Lawrenceville, but owing to the absence of Dr. Bryant the subject was discussed in general by all present.

This being the annual meeting of the society, the following officers were elected for the year 1908: Dr. H. V. Lewis, president; Dr. W. M. Friend, vice-president; Dr. Charles P. Gore, secretary and treasurer; Dr. C. J. Sprinkell, censor for period of three years. An important feature of the day was a banquet given to its members by the society, and served by the ladies of the Christian Church of this city, at the home of Mrs. J. D. Horner. Dr. A. G. Mountz of Chauncey was toastmaster, and Drs. Sprinkell, Hoekman, Lewis, Trueblood and Gore responded to toasts. Although not as many were present as at other meetings, all claimed this the most practical and valuable meeting of the year.

MADISON COUNTY.

The Madison County Medical Society met at the rooms of the Alton Commercial Club on Dec. 6, 1907, at 7:30 p. m., President T. P. Yerkes in the chair. Members present: Drs. Everett, H. R. Lemen, Fisher, Yerkes, Robinson, Ihne, Johnson, Sutter, Smith, Zoller, Merritt, Foulds, Taphorn, Hastings, J. H. Fiegenbaum, Ferguson, Beard, Luster, Binney, Shaff, Cook, Joesting, Ralph B. Scott and E. W. Fiegenbaum. Visitors: Drs. Carl E. Black of Jacksonville; Schuessler, Duggan and Porter, of Alton; Gibberson, of Upper Alton; Merwin, of Highland; Engel of Prairietown; and Mr. McGailliard, of Granite City. The reports of the secretary and treasurer were read and referred to auditing committee, who reported them correct, when on motion, they were approved and ordered filed. The following applications for membership were read and referred to board of censors: Drs. J. Morgan Sims, Charles R. Oatman, John W. Siegel, M. W. Harrison and Lay G. Burroughs of Collinsville; B. F. King, W. Purviance, H. C. Earley and W. F. Grayson, of Granite City; J. J. Brown and Chas. E. Molden, of Troy; L. F. Schuessler and D. F. Duggan, of Alton; J. E. Lee and John Lee Marder, of Venice; C. E. Harnsberger, of Alhambra; John A. Collins, of St. Jacobs; Edgar G. Merwin, of Highland; John R. Farthing, of Marine; E. Anthony Everett, of Grantfork; L. L. Yerkes, of Upper Alton; Charles E. Dorr, of Worden; J. S. Thrailkill, of Bethalto; L. C. Harlan, of Madison; Chas. M. Penee, of East Alton; and Edward Engel, of Prairietown. Upon favorable report by the board all of the above were elected to membership, a suspension of the rules having been ordered for that purpose.

The election of officers for the ensuing year resulted as follows: President, Waldo Fisher, Alton; vice-president, H. R. Lemen, Alton; secretary, E. W. Fiegenbaum, Edwardsville; treasurer, J. H. Fiegenbaum, Alton; member of board of censors, to serve three years, W. W. Everett, Highland.

Our district counselor, Dr. Carl E. Black, of Jacksonville, delivered a very comprehensive address on "Surgical Dressings," which was illustrated by photographs and other exhibits, and commanded marked attention, and called out a

very liberal discussion. A vote of thanks was tendered Dr. Black for his entertaining and instructive address. On motion it was ordered that we meet in Edwardsville on the first Friday in March, 1908.

E. W. FIEGENBAUM, Secretary.

MASON COUNTY.

The Mason County Medical Society met in Havana, January 6. The session was held in the K. of P. Hall. Ten members were present and listened to an interesting address on Smallpox, by Dr. George T. Palmer of Springfield. This topic was very timely, because of the large number of cases of this disease in Mason County at that time. The importance of vaccination was fully demonstrated.

MASSAC COUNTY.

Massac County Medical Society met at the city hall at 10 a. m., with the President, Dr. M. H. Trovillion, presiding. Present: Drs. H. C. Fisher, A. C. Ragsdale, J. A. Orr, M. H. Trovillion, C. E. Trovillion, G. W. Walbright, A. E. Miller, W. S. Dixon, P. S. Walters, and J. D. Young. Dr. Ragsdale read a communication from the medicolegal committee of the state society in answer to a communication of his for information. Hon. Fred R. Young was elected attorney for the society and, being present, gave a short talk, thanking the society for the honor and expressing pleasure in having the privilege of association with the society. He was also made an honorary member. The committee on arrangements made its report:

"We, your committee, beg leave to report as follows: Assignment of subjects for a postgraduate scientific study for the next six months: Dr. A. E. Adkins, Diseases of the Nervous System; Dr. W. S. Dixon, Diseases of Children; Dr. S. D. Elmore, Diseases of Women; Dr. H. C. Fisher, General Practice of Medicine; Dr. R. H. Jacobs, Physiology; Dr. A. E. Miller, Genitourinary Diseases; Dr. A. T. Mobley, Experience in the Practice of Medicine; Dr. J. A. Orr, Hygiene and Sanitation; Dr. A. C. Ragsdale, Eye, Ear, Nose and Throat; Dr. C. E. Trovillion, Practical Anatomy, Dislocations and Fractures; Dr. M. H. Trovillion, Obstetrics and Diseases of Children; Dr. C. E. Tucker, Materia Medica and Therapeutics; Dr. G. W. Walbright, General Operative Surgery and Surgical Diagnosis; Dr. P. S. Waters, Physical Diagnosis; Dr. J. D. Young, History of Medicine; Hon. Fred R. Young, Forensic Medicine. Each to have the privilege to write, lecture or demonstrate upon the subject assigned to him. The time allowed each not to exceed 15 minutes in opening and 5 minutes in closing, and each member 5 minutes in discussion. The time to be extended only by vote of the society. We further report that we have arranged for a dinner for all the doctors of the county and their wives at the Julian Hotel at 12 m.

R. H. JACOBS,
M. H. TROVILLION,
G. W. WALBRIGHT,
Committee.

On motion the above report was received and the committee discharged. Hon. F. R. Young, being present, was called to the floor and gave a very interesting lecture on forensic medicine, and mentioned many things of interest to the profession along the line of expert testimony and malpractice suits. Just prior to this lecture the members proceeded in a body to the Julian Hotel, where their ladies were in waiting, and proceeded to do ample justice to the bountiful repast placed before them.

Upon assembling at the city hall, the annual election was declared in order, and the following were elected for the year: Dr. J. A. Orr, president; Dr. A. E. Miller, vice-president; Dr. A. C. Ragsdale, secretary; Dr. C. E. Trovillion, treas-

urer. The following committees were appointed: Executive, G. W. Walbright, A. E. Miller and C. E. Trovillion; censors, M. H. Trovillion, W. S. Dixon and P. S. Waters.

The President then proceeded to call upon the essayists in alphabetical order, and the following responded: Dr. W. S. Dixon presented the subject of worms in children, and stated, beginning with the next meeting, he would present his subject in a systematic form. His lecture on worms was instructive and brought out a rather lively discussion. Dr. H. R. Jacobs next presented a clinic. An old colored gentleman who had been circumcised for phymosis resulting from disease of the glans penis. After examination it was pretty well agreed that the diagnosis was an epithelioma, and an early amputation advised. Dr. A. C. Ragsdale next took up his subject by giving a description of the orbits from an anatomical and physiological standpoint. The subject was favorably commented upon by Drs. J. D. Young and G. W. Walbright. Dr. C. E. Trovillion began his subject by a lecture on the spine and description of the vertebræ and their relation to important internal organs. This lecture was commented upon very favorably.

The time now growing late and other essayists being absent, the scientific work was closed for the day. All present expressed pleasure at the improvement in the program, and amid enthusiasm the society adjourned to meet again on the second Thursday of each succeeding month at the city hall.

McLEAN COUNTY.

The December meeting of the McLean County Medical Society was held in the city hall on the evening of Dec. 5, 1907. The meeting was called to order by the President; Dr. Godfrey. Communications were read from Dr. McCormack, Secretary of the Kentucky State Medical Society, concerning "The Doctor Versus the Nostrum," and from Dr. Baxter, assistant editor of the ILLINOIS MEDICAL JOURNAL, relative to the advertising matter which appears in the JOURNAL. A letter of appreciation was read from Mrs. Samuel Bane. A motion was made by Dr. Vandervort that these communications be received and placed on file. Seconded and carried. A motion was made by Dr. J. B. Taylor that, in case of a new member joining the society after one-half of the year has passed, the Secretary be instructed to collect from such member the amount required for state dues for six months, or \$1.75, plus one-half the local dues for the year, or 50 cents, making a total of \$2.25 for six months. This motion was seconded and carried. The following bills were allowed:

Nov. 13, 1907, to stenographic paper.....	.10
Nov. 23, 1907, to stamps.....	1.00
Dec. 2, 1907, to 100 postals, notices December meeting.....	1.00
July 13, 1907, to E. W. Weis, dues for 29 members.....	71.00
Aug. 23, 1907, to E. W. Weis, dues for 10 members.....	26.50
Nov. 16, 1907, to E. W. Weis, dues for 29 members.....	75.00

Total \$174.60

Dr. E. Mammen was essayist of the evening.*

The following members were present: Godfrey, Mammen, Covington, Keys, Hart, J. B. Taylor, J. L. Yolton, R. G. Yolton, Cantrell, Lee Smith, Welch, Sloan, Dobson, Vandervort, and Rhodes.

January Meeting.

The January meeting of the McLean County Medical Society was held in the council chamber of the city hall on Thursday evening, Jan. 2, 1908, at 7:30 p. m. The meeting was called to order by the President, Dr. Godfrey. The censors reported favorably on the names of Dr. Frank C. Fisher, Bloomington, and Dr. T. F. Tannus, Bloomington, who were immediately voted into the society. The name of Dr. O. M. Thompson, of Downs, was proposed for membership and re-

* For text of the paper see p. 152.

ferred to the Board of Censors. A card of thanks was read from Mrs. Covey for the floral tribute sent for Dr. J. E. Covey. A communication was read from Arthur McDonald, of Washington, D. C., relative to the establishment of laboratories under state, federal and city government and also private endowment for scientific study of the criminal, pauper and defective classes, with a view to lessening social evils by investigation of their causes. Dr. J. B. Taylor made a motion that the Secretary frame a resolution directed along the line of the above communication and present same to the society at the next meeting. Motion seconded and carried. A motion was made, seconded and carried that certain alleged irregularities (which were discussed at some length before the society) be referred to the Board of Censors for investigation. The remainder of the evening was very profitably and interestingly passed in discussing the topics assigned for the quiz, this being the third of the year. Those present were: Drs. Bath, Sloan, J. L. Yoltan, Welch, Rogers, Dobson, J. B. Taylor, Fenelon, R. D. Fox, Hart, A. L. Fox, R. A. Noble, W. B. Wakefield, C. M. Noble, Lee Smith, Shinn, Vandervort, Howell, J. W. Smith, Godfrey, and Rhodes.

Meeting adjourned.

F. H. GODFREY, President.

O. M. RHODES, Secretary.

MONROE COUNTY.

A special meeting of the Monroe County Medical Society was held at Burksville, Dec. 9, 1907, with the president, D. H. Heidelberg, in the chair, Dr. Adelsberger, secretary, and nine members present. Drs. Bransford Lewis, A. H. Meisenbach, of St. Louis, and C. G. Smith, of Red Bud, were the visitors present. Action on the communication of Dr. A. T. McCormack, secretary Kentucky State Medical Association, relative to resolutions condemning nostrums, was postponed until the Illinois State Medical Society acts thereon. The following resolution was unanimously adopted:

Resolved, That the members of the Monroe County Medical Society, in complying with the rules of the society adopting a fee of not less than \$5 for examination of applicants for old line life insurance companies, shall not accept any part of said fee from the agent, but must insist on the company paying the entire fee.

Dr. L. Adelsberger was elected an auxiliary member of the society to the committee on Medical Legislation of the Illinois State Medical Society. The president and secretary were authorized to act with full powers of the secretary on all matters arising in the interim of meetings. The communication of Dr. Baxter asking that the advertisers in the ILLINOIS MEDICAL JOURNAL be given "a square deal" was read and favorable comments made thereon.

Dr. Bransford Lewis, of St. Louis, president of the Mississippi Valley Medical Association, 1906, exhibited models of various European and American cystoscopes, and in connection with the demonstration of his universal cystoscope. Among other things, he said: That the cystoscope had cleared the field of urological diagnosis in many material respects. It had dissipated the cloud of doubt that had hung about the origin, in the urinary tract, of pain, pus and blood, tubercle bacilli, and other organisms and microbial infections; had made clear the reason for abnormal frequency of urination, of difficulty or of impossibility in individual cases; it had proved an ally of inestimable value in the detection and location, at various parts of the urinary tract, of tumors, calculi and foreign bodies. Taking the objects and uses of ureter catheterization alone, aside from the other features of cystoscopy, and it gave a list that was surprising. Quoting from a previous paper on the subject, it was shown that the purposes were two-fold, for diagnosis and for treatment; and these were related in detail. The cystoscope, which the author demonstrated, fulfilled several different objects, and was therefore named the "universal." Its objects were as follows: To afford, (1) a direct, forward view; (2), right angle view; (3), retrospective view; (4) ureter catheterization by the direct method; (5), a means of supplying free irrigation and prompt exchange of the distending fluid during cystoscopic manipulations, to

maintain a clear field of vision. Through the one sheath that was introduced into the bladder, easy and immediate exchange of one telescope was made for another, of different view or object, without disturbing the patient or without his knowing any exchange was being made. All manipulations were carried out under local, if any, anesthesia. Such work was commonly carried out in the office, the patient going thence to his work or usual duties. The technic of the use of the instrument was described briefly. Pathological specimens and other evidences of the utility of the instrument were exhibited, in the shape of prostates, foreign bodies, etc.

Dr. A. H. Meisenback, of St. Louis, presented a large number of pathological specimens demonstrating the importance of early diagnosis and operation in diseases of the abdomen and pelvis. After adjournment the society and its visitors were entertained at dinner by Dr. A. F. Schellschmidt and his estimable wife.

PIKE COUNTY.

A meeting was called on Dec. 9, 1907, of the Pike County Medical Society, to attend the funeral of Dr. F. Marion Crane, president of the society, who died at his home in Pittsfield, Dec. 6, 1907. The following members were present: J. H. Barber, H. T. Duffield, J. Estill Miller, L. S. Lacy, R. H. Main, B. B. Dunn, J. E. Melton, S. B. Peacock, J. Smith Thomas and P. H. Dechow. Visitor, Dr. J. W. Turner, of Louisiana, Mo. The following members were admitted: P. H. Dechow, Kinderhook; W. O. Skinner and Thomas M. Watson, Griggsville; Loran E. Orr and H. C. Sperry, of Hall; Fred S. Gay, Rockford; and Russell P. Wells, of Pleasant Hill. The following resolutions were adopted by the society:

WHEREAS, Divine Providence, in His infinite wisdom, has removed from among us our colleague, Dr. F. Marion Crane; therefore, be it

Resolved, By the Pike County Medical Society, that by his death the society has lost an esteemed member, the medical profession an honored and worthy coadjutor, and the community an exemplary citizen; and,

Resolved, That the members of this society extend to the bereaved wife and family our sincere and heartfelt sympathy.

The members of the society repaired in a body to the late residence of Dr. Crane, and then dispersed.

RANDOLPH COUNTY.

The Randolph County Medical Society met in regular quarterly session at Menard, in the Penitentiary Chapel, January 14. Warden J. B. Smith delivered an address of welcome, which was responded to on the part of the society by former senator Dr. A. L. Brands. Twelve physicians responded to roll call and 4 new members were elected: A. L. Brands, Prairie du Rocher; H. S. Church, Modoc; C. H. Anderson, Menard; W. C. Fowler, Menard. Dr. J. M. Ball operated upon a 15-year-old girl for convergent strabismus. Dr. A. H. Meisenbach removed a necrosed rib from a young colored man. Necrosis being due to tuberculosis. One hour's time was devoted to the discussion of hyoscine-morphine anesthesia, the discussion being especially interesting as to the value of cactin. Those who had used cactin declared that there is no therapeutic effect to be derived from the drug whatever, unless, possibly by giving it for a number of days in succession, there may be some virtue to be derived.

ROCK ISLAND COUNTY.

The Rock Island County Medical Society met at the Hotel Harms, Rock Island, Tuesday, Dec. 10, 1907, at 6:30 p. m. After dinner, in the absence of the president and vice-president, Dr. E. M. Sala was elected temporary chairman. The scientific program was taken up as follows: Dr. G. L. Eyster gave a report of large ovarian cyst, complicating pregnancy. This paper was discussed by Drs.

Hollowbush, Sala and G. G. Craig, Jr. Dr. E. M. Sala then reported two cases in which the use of the ambulatory splint had been successful. Dr. R. S. J. Meyer then followed with a paper on "The Shunt Current Controller for Static Machines and X-Ray Coils," which was discussed by several members. The name of Dr. F. O. Ruignell of Moline was voted upon and he was unanimously elected to membership. It was moved and carried that the following resolutions be adopted and that copies of the same with names of all the members of the county society attached, be sent to the governor, to our state senator, to our representatives, and to the committee of the state society.

WHEREAS, The results of open-air treatment of tuberculosis have been the most curative of any treatment thus far known, and it being a fact that there is little or no provision made for the care of the poor, nor of those in moderate circumstances who are now, or who are liable hereafter to become afflicted with the much dreaded disease in this state; and,

WHEREAS, It is utterly impossible for this, or any other community in the state to make a respectable fight against the disease under such conditions; and,

WHEREAS, The poor and those of moderate circumstances are compelled to remain at home and endanger the lives of their relatives and mankind generally; therefore, let it be

Resolved, That it is the sense of this society that the legislature be waited upon, and that a united effort be made to provide a suitable colony for those of our people who are so unfortunate as to contract tuberculosis.

Resolved, further, That such an institution provide not only for the poor, but also for those of moderate means who can not afford a stay at an expensive colony.

S. B. HALL, M.D., President.

W. D. SNIVELY, M.D., Secretary.

The names of all the members, sixty-two in number, were also signed.

THE SHUNT CURRENT CONTROLLER FOR STATIC MACHINES AND RUMPKORF COILS IN ELECTRO-THERAPEUTIC AND X-RAY WORK.*

R. C. J. MEYER, M.D., MOLINE, ILL.

The problem of controlling the current from a static machine as applied to the patient is a condition to be met by all operators of static machines. The usual method is to control the output of the machine by controlling the speed of the plates. This can easily be done where a direct current can be had by the use of a rheostat to control the speed of the motor, or where the water motor is used, by the control of the water used in the motor. But where the alternating current is in use, the problem is a little more difficult, and various speed controllers have been devised with varied success.

THE SHUNT METHOD OF CONTROL.

I have been using a very simple method for controlling the current for over 2 years, which has given me every satisfaction. This is as follows: Remove the ball ends of the discharge rods, now insert a flat disc about 2 inches in diameter with a projection in center of disc, to fit into end of discharge rods, or sharp-pointed rod (the sharper the better) into end of discharge rods; connect your machine as desired; now bring ends of discharge rods together, start your machine (your current is now shunted through discharge rods); now draw out your discharge rods until the desired amount of current is passing to the patient. Again, after inserting disc or sharp points in end of discharge rods, draw the discharge rods far apart, start your machine, and now by bringing the points or discs closer together you shunt a certain amount of current through the discharge rods until the patient is receiving no more current than is desired. The air space between the discharge rods gives you the resistance. These points or discs are not used, however, when Leyden jar currents are used. Then the balls are used for the same purpose and in the same way as the points or discs.

IN X-RAY.

Again, insert your sharp points as before, bring discharge rods with pointed ends together, connect your tube to the spark gap or stand, start your machine,

* Read before the Rock Island County Medical Society.

and when in full motion gradually separate discharge points until tube lights up properly; then allow the points to remain at this distance to protect your tubes. You can in this way operate the cheapest tubes with maximum results. In operating my coil I use the same pointed discharge rods, with points together, then separate the points until the tube lights up as before. This will also give you an indication as to whether your tube is hard or soft and its penetrating power by its appearance and the distance of the points.

I would recommend the discs in therapeutic work and the points (the sharper the better) in x-ray work or where ozone generation is desired for the patient. When the disc is used, polarity is indicated by purple on the edge of the positive and light points on negative disc.

SANGAMON COUNTY.

Meeting of Nov. 11, 1907.

At the regular meeting of the Sangamon County Medical Society, held at the Leland Hotel, evening of Nov. 11, 1907, the following officers were elected for the ensuing year: Dr. C. M. Bowcock, president; Dr. R. I. Bullard, vice-president; Dr. H. H. Tuttle, secretary-treasurer; censors, Drs. O. B. Babcock, C. D. Wright, G. T. Palmer. At the conclusion of the business meeting 94 members and guests were entertained at a banquet, after which Dr. Hugh T. Patriek of Chicago delivered an address on Differential Diagnosis Between Functional and Organic Diseases of the Nervous System. He was followed by Dr. W. L. Baum of Chicago and president of the State Medical Society on Practical Points in Infectious Diseases. A resolution urging the members present to use every effort to prevent the passage of Senate Bill No. 581 and House Bill No. 914 in the Illinois Legislature. Adjournment.

Meeting of Dec. 9, 1907.

At the regular meeting of the Sangamon County Medical Society, held at the Illinois Country Club, evening of Dec. 9, 1907, the following members were in attendance: Drs. A. E. Prince, R. I. Bullard, W. E. Mayes, C. P. Colby, D. W. Deal, A. L. Brittin, Paul Wakefield, Stanley Castle, H. A. Aschauer, A. L. Hagler, P. L. Taylor, C. S. Nelson, C. D. Wright, O. H. Deichman, H. L. Metcalf, F. C. Vogt, B. W. Hole, Walter Ryan, T. H. Griffith, J. O. Halyers, John Deal, M. M. Bradley, C. A. Lloyd, I. H. Taylor, J. L. Taylor, L. C. Taylor, J. A. Egan, Roy Rogers, E. A. Walsh, O. B. Babcock, E. E. Hagler, G. N. Kreider, A. C. James, C. H. McElfresh, A. R. Trapp, W. G. Bain, J. W. Robinson, A. D. Taylor, J. A. Prince, C. L. Patton, B. B. Griffith, C. M. Bowcock, C. H. Walters, W. A. Halbert, S. E. Munson, Helen Babb, R. D. Berry and H. H. Tuttle. Drs. J. L. Cass, T. H. Griffiths and Paul Wakefield were unanimously elected members of the society. An assessment of \$1 per member was made to defray current expenses for 1908. At the conclusion of the business session, the society were the guests of Dr. Arthur Prince at a banquet, after which Dr. Everett Brown of Decatur gave a very interesting paper. Subject, Tuberculin. Ten cases illustrating its use as a diagnostic agent, followed by general discussion of the subject. A rising vote of thanks to Dr. Brown for his paper, and to Dr. Prince for the banquet, occurred preceding adjournment.

Meeting of Jan. 13, 1908.

The January meeting of the Sangamon County Medical Society was held at the Lincoln Library, on the evening of January 13, Dr. Bowcock presiding. Dr. Patton presented a clinical report of a case of cowpox, together with interesting photographs of the patient. Dr. Kreider presented specimens of tuberculin and spoke of its use as a diagnostic agent. The applications of Drs. Peniek, Wright, Huber, Walters, Wilbur, Johnson, Hill, Baxter, Baldwin and Grant were presented and referred to the board of censors. The sum of \$5 was voted to be expended for a floral offering in case of the death of a member. Dr. G. T. Palmer presented

a paper, subject, Water in Treatment of Disease, followed by discussion. Dr. D. W. Deal presented a paper, subject, Improved Technic in Correcting Malpositions of the Uterus, followed by discussion.

Adjournment.

SHELBY COUNTY.

The Shelby County Medical Society met January 24, at Shelbyville, admitted twelve new members, transacted the routine business, and elected the following officers: President, Dr. H. E. Monroe; vice-president, Dr. W. E. Searborough; secretary, Dr. F. P. Auld.

ST. CLAIR COUNTY.

The regular meeting of the St. Clair County Medical Society was held at the Commercial Club rooms in Belleville, on Thursday, Jan. 9, 1908, with Dr. J. W. Rendleman, president, in the chair, C. W. Lillie, recording secretary; C. S. Skaggs, corresponding secretary, A. E. Hansing, treasurer. Members present, Hertel, Renner, Hilgard, Scheel, Reuss, Reis, Auten, Raab, J. W. and B. E. Twitchell, Belleville; Grimes, Hanson, Wiggins, Fairbrother and Spitze, East St. Louis; Miller, Caseyville; J. N. Kramer, Marissa. Dr. Wiggins presented a specimen of kidney stone and reported the case and the operation for it. Dr. Starkel reported the case of a child suffering from a severe pain in which the diagnosis was not positive, but in which the x-ray showed the shadow of an abscess in the lower spinal region. The doctor cites this as an example of the cases where the treatment for spinal disease is sometimes instituted when nothing of the kind is indicated. The child recovered readily on the evacuation of the abscess. Dr. Fairbrother presented brief notes on cases of sudden death during, or immediately after sexual intercourse, the previously diseased heart being the remote cause of death, while the sexual act was the exciting cause. Several cases had been collected by the doctor bearing on this point. Dr. Fairbrother will soon report in extenso all the cases he has been able to gather. Any one who has had similar cases would confer a favor by reporting them to him.

Dr. Wiggins read a paper on Non-Penetrating Abdominal Wounds. This paper was discussed by Starkel, who referred to a case similar to the one reported by Dr. Wiggins, in which there was rupture of the bladder; and by Drs. Fairbrother, Miller and Hanson, the latter referring to a case of a patient who had fallen upon a rail, injuring the spleen without external visible evidence of injury, but in which the injury proved rapidly fatal.

The applications of Dr. John F. Kramer of Marissa and Dr. J. C. Spitze, East St. Louis, were received, favorably reported by the board of censors, and elected to membership. The following amendments to the by-laws were adopted:

Article — was amended by adding the following sections:

SECTION —. Any member who repeatedly permits his name to appear in the lay press in connection with accident cases, or other cases coming within his practice, shall be deemed guilty of a breach of the Principles of Ethics of the American Medical Association, and may, upon satisfactory evidence of such violation, be expelled from this society.

SECTION —. Any member acquiring the reputation of an abortionist, and who by such reputation will bring discredit upon the society, may be expelled from the society.

SECTION —. Any member who shall be guilty of any other form of dishonorable conduct which will tend to bring discredit upon the society may be expelled.

SECTION —. The members of this society shall be the judges of the conduct of its members, and shall decide questions of standard.

SECTION —. A majority vote of the members present at any regular meeting shall be required to expel a member from the society.

SECTION —. No action to expel a member shall be taken unless notice of such meeting shall have been mailed to each member at their last known address; but the non-receipt by any member of the notice of the meeting shall not invalidate

any action if such notice has been mailed. Notice of the proposed action against a member shall not be necessary, but the member against whom action is to be taken must have notice in advance of the meeting.

The society adjourned.

C. W. LILLIE, Secretary.

VERMILION COUNTY.

The Vermilion County Medical Society met December 9, in the City Hall, Danville. The board of censors reported favorably on the names of Drs. H. B. Downes, M. Y. Downes and R. D. Cruikshanks, all being elected to membership. The program was to have consisted of the president's annual address, followed by case reports. Sickness in the family of the president, A. J. Leitzbach, prevented him from being present. Dr. J. M. Guy reported a case of puerperal eclampsia, and T. E. Walton and E. B. Cooley reported similar cases. At this point case reports were suspended, and it being the annual meeting, the election of officers was proceeded with, which resulted as follows: President, C. E. Wilkinson; vice-president, A. M. Miller; secretary and treasurer, E. E. Clark; censors (one to elect), H. S. Babcock. The society adjourned for refreshments, followed by a smoker, and resuming case reports, Dr. Crist reported a case of destruction of the bridge and frame of nose, suspected to be specific, but heroic doses of potassium iodid, two drams three times a day, had not caused improvement. He now suspects malignancy. Dr. Wilkinson presented a specimen of enormously enlarged Fallopian tube (pyosalpinx) measuring two inches in diameter and eight inches long; recovery after operation was uneventful. He also presented a specimen of epididymitis of an undescended testicle removed with recovery.

E. E. CLARK, Secretary.

PEORIA CITY.

Meeting Nov. 19, 1907.

Regular meeting of Peoria City Medical Society was held Nov. 19, 1907. J. H. Bacon presented a paper on Opsonins. The paper first gave a synopsis of our ideas of immunity from the knowledge of bacteria as the etiological factor in infection; the place of opsonins in the Ehrlich theory; limitations of the field of usefulness to those diseases which are fought by phagocytes and of chronic duration; Wright's idea of autointoxication as a natural method of cure; when autointoxication is limited by pathological process the disease becomes chronic and the necessity for vaccination occurs; the technic of making vaccines, making emulsions of bacteria of different strengths, making test of opsonic index, also Simon's percentage methods, were described.

General summary of results in tuberculosis and chronic staphylococcal diseases were surveyed. Difficulties of technic make the estimation of the index impractical outside of hospitals where trained workers are plentiful. Hope of the profession at large is that the clinical symptoms will be found to give a proper index for vaccination both as to dosage and time of injection; in failure of that, that some new index will be found to make Wright's vaccines a ready means of combating diseases open to the use of all physicians and as easily used as the antitoxin for diphtheria.

Annual Meeting, Dec. 17, 1907.

The following officers were elected at the annual business meeting, Dec. 17, 1907: President, C. U. Collins, Peoria; first vice-president, P. H. Kelly, Chilli-cothe; second vice-president, Edward Hasson; secretary-treasurer, J. H. Bacon; censors, A. J. Kanne, L. A. McFadden, W. M. Cooley.

Meeting Jan. 7, 1908.

At the first meeting of the year of the Peoria City Medical Society the newly elected officers were installed.

On retiring from the office of president, Dr. B. M. Stephenson expressed his sincere thanks to his staff of officers and members for their cordial support during

the year. He was glad to be able to report progress during the year, especially in the scientific work. There were 31 papers presented, as compared with 17 the previous year. There is a surplus in the treasury.

Dr. C. U. Collins, on assuming the chair, presented an address. After thanking the society for the honor that had been conferred on him, he said he was pleased to note the friendliness and feeling of good will prevailing in the profession. This was brought about in part by an increasing number of physicians having common offices, coming in more intimate contact with each other, and finding the other man a good fellow. He was especially pleased to note the increase of study among the physicians and the move to establish a library of current medical literature. This is necessary for good up-to-date work, and should be supported by all the members. Medical literature is five years ahead of books, and the latest advances are brought out in periodicals. He hoped the coming year would be one of material progress.

J. H. BACON, Secretary.

NEWS OF THE STATE.

PERSONAL.

Dr. J. Clarence Webster, Chicago, has returned from Europe.

Dr. John W. Powers, Mount Carroll, has been appointed township physician.

Dr. George A. Zeller, South Bartonville, Ill., who has been ill, is reported to be convalescent.

Dr. Emil Lofgren, Rockford, tripped over a wire, December 25, breaking his left collar bone.

Dr. and Mrs. Orda D. Holland and son, Streator, returned December 25 from their European trip.

Dr. and Mrs. David Cook, Plano, will celebrate their golden wedding anniversary, January 30, at Bakersville, Mo.

Dr. Samuel G. Smith, Reddick, was struck with a club by a boy December 23, causing concussion of the brain.

Dr. Lucy Waite, Chicago, was the guest of honor at a banquet given by the professional women of Denver, January 1.

Dr. George W. Webster, Chicago, has been appointed a delegate to represent the State of Illinois at the American Medical Association session.

Dr. Ferdinand C. Hotz was given a complimentary reception and banquet, January 13, by the Chicago Ophthalmological Society, which he founded twenty years ago.

Dr. A. L. Bouffleur has been elected a member of the consulting staff of the Cook County Hospital, Chicago, to fill the place left vacant by the death of Dr. Nicholas Senn.

Clarence L. Wheaton, M.D., delivered the address on Medicine at the Indiana University School of Medicine, Indianapolis, December 11, the subject being "The Hygiene of Tuberculosis."

Dr. J. F. Percy, of Galesburg, while cranking his automobile, January 25, had the misfortune to sustain a compound fracture of both bones, near the wrist joint, of the right arm.

Dr. William A. Bennett, charged with the performance of an illegal operation which caused the death of a young colored woman, has been exonerated by the verdict of a coroner's jury.

Dr. Philip F. Gillette, for two years a member of the staff of the Illinois Hospital for the Incurable Insane, South Bartonville, will return to Elgin January 16 and resume private practice in his specialty.

Dr. Hayden S. Barnard, who has been seriously ill at the Postgraduate Hospital with typhoid fever, is now recovering and will leave the hospital within a few days. He expects to spend a couple of months in the south recuperating before taking up his practice again.

Dr. G. W. Luttenberger, formerly a Christian minister of Dorchester, Macoupin County, Illinois, and later practitioner of that village, has been sued by his wife for divorce. She alleges that she paid for his ministerial and medical education in Kentucky and St. Louis and was then deserted, her husband leaving for the West in July.

Prof. Max Neisser, assistant to Professor Ehrlich, who is making a hurried visit to America, has been spending a few days in Chicago, studying the methods of prevention of tuberculosis, milk hygiene and instituting special immunity research in the interest of the City Hygienic Institute of Frankfort-on-the-Main, of which he was recently appointed chief.

NEWS ITEMS.

Dr. W. B. Moon, of Belmont, Ill., lost his office and all its contents by fire on Dec. 15, 1907.

The office of Dr. E. C. Gaffney, of Springfield, was entirely destroyed by fire Dec. 20, 1907.

The Peoples' Hospital of Chicago is to have a new building at 365 Twenty-second street, to be three stories in height, 42 by 100 feet, and to cost \$35,000.

At the recent minstrel show given by the Young Men's Club of Evanston, for the benefit of St. Francis' Hospital, about \$1,000 was realized for the institution.

The annex to Dr. Broughton's Sanitarium, South Rockford, almost completed, is three stories in height, 40x70 feet, and will almost double the capacity of the institution.

Services in memory of Dr. Nicholas Senn were held in the Fine Arts Building, Chicago, Sunday, February 2, at 2:45 p. m. President James of the University of Illinois presided.

St. Vincent's College, Chicago, has been granted a charter as De Paul University, and the plans for its future embrace the establishment of a school for medicine and a school of law.

Hugo Hassiepen, Chicago, a "magnetic healer," charged with practicing medicine without a license, is said to have pleaded guilty before Judge Scovill, January 3, and to have been fined \$100.00.

A special service for medical students was given at the Church of Epiphany, Chicago, January 19. The rector, Rev. John Henry Hopkins, D.D., preached on the subject, "Religion in the Sickroom."

Fire in the Senn Memorial College of Rush Medical College, December 24, caused great alarm in the hospitals near by. The fire was caused by the explosion of a gas meter, and was extinguished with little damage.

The Hospital of St. Anthony of Padua, Chicago, is to be enlarged at a cost of \$100,000. The addition will include a five-story building, 50 by 115 feet, with a rear wing, 38 by 50 feet. It will be fireproof, with double tile floors.

The city is about to build an isolation hospital at Thirty-fourth street and Hamlin Avenue, Chicago. The building is to be two stories in height, 50 by 168 feet, to be heated by steam, lighted by electricity, and to cost about \$50,000.

The State Board of Pharmacy, on December 10, framed a new move in the crusade against the sale of cocain by sending letters to every wholesale drug house in Chicago, requesting that the sale of cocain to druggists be limited to one ounce.

Dr. Harry G. Hardt, superintendent of the Illinois Asylum for Feeble-minded Children, Lincoln, as a result of a joint investigation conducted at the institute, January 6, regarding the injury of an inmate, Frank Giroux, was acquitted from all blame.

It is expected that a synopsis of the papers to be read at the next annual meeting of the Illinois State Society will be published in the April issue of THE JOURNAL. Members who are to write papers are urged to bear this in mind and to prepare the synopsis early.

The corner stone of the new People's Hospital, Chicago, was laid, December 29, with appropriate ceremonies. E. J. Magerstadt, city collector, was chairman, and addresses were made by representatives of the Health Department, Dr. Isaac C. Garey, founder of the institution, and others.

One S. D. Francis, advertising extensively in newspapers in different parts of the country as a medical specialist, also known as Dr. Dunn, 130 Dearborn avenue, Chicago, guaranteed to cure certain diseases, is reported by the daily press to have been summoned before the United States Commissioner to answer to a charge of using the United States mail to defraud.

The Illinois State Board of Health has recently issued the sixth revised edition of its special *Bulletin* on the cause and prevention of consumption. The *Bulletin* is quite complete, including statistics, suggestions how to destroy the sputum, how to avoid contracting consumption, the diet and home treatment of the disease. Considerable space is devoted to the discussion of the effects of the climate.

The Chicago Hospital Association was organized December 21 at the Presbyterian Hospital, its membership being restricted to hospital superintendents. Asa Bacon, superintendent of the Presbyterian Hospital, was elected president; Charles T. Garrard, Chicago Eye and Ear Infirmary, vice-president; Anna L. Davis, Frances Willard Hospital, secretary, and Dr. Lawrence Ryan, St. Anthony of Padua Hospital, treasurer.

Morgan County boasts of having one of the best selected medical libraries in Illinois. A room has been assigned for the use of the society at the public library. The medical books and journals have been com-

pletely indexed and a salaried attendant is employed. The leading medical journals are taken and the articles therein classified. During the last year 170 volumes, 103 pamphlets and 40 bound periodicals have been donated to the library.

W. H. Weaver, charged with conducting a fraudulent business and using the mails to defraud, was given a preliminary hearing before Judge O'Bannon and bound over to await the action of the grand jury in the sum of \$800. Weaver manufactured an Indian tonic which he has sold for \$1.00 per bottle and which he called "Oronos." The solution is said to have no medicinal merit. Postoffice Inspector Means examined Weaver's mail and found sixty orders for the medicine.

The governor has appointed the following members of the committee authorized by the General Assembly to investigate occupational diseases in the state and report to the next General Assembly: Dr. Ludvig Hektoen, Chicago, secretary of the Memorial Institute for Infectious Diseases; Dr. Alice M. Hamilton, Hull House, Chicago; Dr. George W. Webster, Chicago, president of the State Board of Health, and Dr. James A. Egan, Springfield, secretary of the State Board of Health.

The Indiana State Medical Association issued, on Jan. 15, 1908, their first official organ, the *Journal of the Indiana State Medical Association*. This journal is published monthly under the direction of the Council of that association. It is edited by Dr. Albert E. Bulson, Jr., assisted by Dr. B. P. Weaver. Dr. Bulson was formerly editor of the *Fort Wayne Medical Journal-Magazine*. The Indiana State Medical Association is to be congratulated upon securing Dr. Bulson as the editor.

Beginning with January, *The American Journal of Urology* will be edited by Dr. William J. Robinson, editor of the *Critic and Guide*, *Therapeutic Medicine*, etc. *The Journal* will be enlarged in scope so as to include venereal and skin diseases, and there will be added an abstract department which will review the genito-urinary and dermatologic literature in every civilized language. The subscription price has been reduced to \$2.00. The publication and editorial offices have been removed to 12 Mt. Morris Park West, New York City.

The *Journal of the Indiana State Medical Association* has issued its first number with clean advertising pages and announces its intention of continuing to keep from its pages all nostrums and to limit all matter for advertisement to such as is found in the U. S. P. or N. F. or such as has been approved by the Council on Pharmacy and Chemistry of the American Medical Association. This is another influence for good. We congratulate this journal for starting right, and believe that its example will be followed among other state journals who have not yet eliminated nostrum advertisements.

The first quarterly meeting of the Chicago and Suburban Health League was held Jan. 11, 1908. The members were taken to the Isolation Hospital for a practical demonstration in the diagnosis and treatment of smallpox; later the meeting convened in the office of the lab-

oratories of the department. Dr. J. A. Lauer, of Whiting, Ind., presented a paper on "Pollution of Water Supplies," and a discussion of the typhoid situation in surrounding towns followed. All towns in the league are now forwarding weekly reports on local health conditions to the Chicago office, where they are summarized and a review mailed to all interested health officers.

The students of the University of Pennsylvania Medical School have formed an organization, the purpose of which is to acquaint the undergraduates with the workings of the American Medical Association, after which it is very closely modeled. The various student societies take the place of the state organizations and elect members to a House of Delegates, which transacts all the business of the association. An annual meeting is held, at which papers are read by chosen members, thus encouraging original research and scientific spirit. The organization is named the "Undergraduate Medical Association of the University of Pennsylvania" and already has over 250 members.

The American Medical Association issued the first number of the *Archives of Internal Medicine* January, 1908. This journal is devoted to the publication of articles written about internal medicine which are too technical or too elaborate to appear in a journal of general circulation; it represents special work in internal medicine, and as such occupies a distinct place in medical literature. The editorial board is composed of the following men: Joseph L. Miller, Chicago; David L. Edsall, Philadelphia; Richard C. Cabot, Boston; Theodore C. Jane-way, New York City; George Dock, Ann Arbor; W. S. Thayer, Baltimore. The regular subscription price is \$4.00 a year, but as an introductory price a reduction of \$1.00 will be made to members and subscribers of the *Journal of the American Medical Association*.

Tuesday, December 31, at 2:30 p. m., at Room 150 Manual Training School Building, University of Chicago, vice-presidential address by Simon Flexner, retiring chairman of Section K of the American Association for the Advancement of Science. Subject: "Recent Advances and Present Tendencies in Pathology." Wednesday, January 1, at 2 p. m., at the Reynolds Club Theater, symposium on immunity, under the auspices of Section K of the American Association for the Advancement of Science, with the following program: Introductory remarks by the chairman, Ludvig Hektoen; M. J. Rosenau and John F. Anderson, "Anaphylaxis and Its Relation to Immunity"; V. C. Vaughan, "Hypersusceptibility and Immunity"; Preston Keys, "The Hemolysins of Animal Toxins"; William F. Ford, "Artificial Immunity to Glucosids"; S. P. Beebe, "The Differentiation of Homologous Proteids by Serum Reactions"; Frederick C. Novey, "Immunity in Spirochetal Infections"; H. T. Ricketts and L. Gomez, "Immunity in Rocky Mountain Spotted Fever"; E. C. Rosenau, "Virulence of Pneumococci in Relation to Phagocytosis"; G. F. Ruediger, "The Mechanism of Streptococcus Immunity"; Mazyek P. Ravenel, "Immunity of Tuberculosis"; H. Gideon Wells, "Chemical Aspects of Immunity."

SOCIETY NEWS.

Dr. Frank Allport delivered a public lecture in the Public Library building, January 11, on the subject, "Responsibility of the School to the Child."

The Chicago Medical Society has changed the place of its regular weekly meetings to the assembly hall on the second floor of the Northwestern University Building, corner Lake and Dearborn Streets.

Dr. P. J. H. Favell delivered a public lecture in the Chicago Public Library building, Jan. 1908, on the subject, "Hawaii, Japan, China and the Philippine Islands; Their People, Geographical and Medical Features."

At the meeting of the Brown County Medical Society the following officers were elected: President, Dr. E. C. Allworth, Mt. Sterling; vice-president, Dr. D. W. Owens, Hersman; secretary and treasurer, Dr. Frank E. McGann, Mt. Sterling; censor, Dr. William Parker; delegate, Dr. J. G. Ash, Herman.

The annual report of Dr. Carl E. Black, librarian of Morgan County Medical Society, shows what a valuable array of indexed literature is at the disposal of the members of this society. The library contains 1,729 volumes, well indexed, and the current medical literature consists of an excellent selection of representative medical publications, the contents of which have been systematically indexed by the Dewey system, making the subjects immediately accessible to any physician who wishes to look up a certain subject. The society is to be congratulated on its excellent facilities.

The following tribute to Dr. Nicholas Senn was published in the *Bulletin* of the Chicago Medical Society, Jan. 11, 1908:

IN MEMORIAM TO DR. NICHOLAS SENN.

WHEREAS, Nicholas Senn, M.D., Ph.D., LL.D., a member of the Chicago Medical Society, broke acquaintance with his colleagues and passed into history Jan. 2, 1908; and

WHEREAS, Professor Senn, by the arduous process of deeds accomplished had come to be known and honored by his professional brethren throughout the world as one of the most fruitful and brilliant exponents of the science and art of surgery of his generation; and

WHEREAS, The works of genius have permanently enriched the surgical art by enlarging its powers and defining its applications; therefore, be it

Resolved, That it is the unanimous testimony of this society that in his life this great teacher of teachers has been an honor to his profession and to his country and an enduring blessing to all mankind; and that in his death we who are left here have lost our most inspiring leader and the world at large one of its most devoted and valuable servants.

WILLIAM E. QUINE,
GEORGE W. WEBSTER,
N. S. DAVIS,

Committee of the Chicago Medical Society.

The trustees of the Chicago Medical Society voted to follow the recommendation of the Council by appropriating \$1,000 for the inauguration of the business bureau, said fund to be returned to the treasurer from the first available funds that they receive. As a result of this action an establishment of the business bureau has become a fact, and a central office for its use has been opened in the Northwestern University

building on the corner of Lake and Dearborn Streets. Dr. Henry B. Favill of the Chicago Medical Society has stated that the office will be open daily from 8 a. m. to 5:30 p. m. and on Wednesday evenings during the medical meeting, and it is hoped that this advance in an attempt to improve the facilities available for members of the society will be met by a willingness on their part to assist in the support of the bureau. It is hoped that the bureau or central office will be of the greatest benefit. It will succeed if all will help. Members are urged to put the accounts that they now give to their collectors in the bureau for collection. The bureau can be more than supported by the commissions that to-day are distributed among many private collectors. The bureau will be managed by Mr. Kenneth L. Eddy, who comes very highly recommended both as to his integrity and business ability. Members are very cordially invited to visit the bureau and become acquainted with Mr. Eddy or address him at the Bureau of the Chicago Medical Society, Northwestern University Building, Dearborn and Lake Streets.

PUBLIC HEALTH AND HEALTH BOARDS.

Viriden reports 150 cases of measles.

Smallpox is reported to be epidemic east of Dunlap.

A number of cases of smallpox are reported from Manito.

The smallpox situation at Kilbourne remains unchanged.

At Pleasant Plains fifteen cases of smallpox are reported.

At Mossville four cases of smallpox of mild type are reported.

Diphtheria is said to be prevalent at Greer College, Hoopston.

At Wallingford six cases of smallpox are reported, and at Gibson City nine cases.

At Havana there are said to be thirty-five cases of smallpox, almost all of mild type.

It is estimated that there are fifty cases of smallpox at Ridott, twenty miles west of Rockford.

Measles are reported at the Illinois Asylum for Feeble-Minded Children, Lincoln, where eighteen cases have been found.

At the University of Illinois there is a smallpox victim, a member of the faculty, and other cases have occurred in Champaign.

Smallpox is said to be present in twenty-seven communities in seven counties in the state, and new cases are constantly being reported.

During December there were 2,704 deaths reported in Chicago, equivalent to an annual death rate per 1,000 of 15.10. Chief among the death causes were: Pneumonia, 477; consumption, 278; heart disease, 237, and violence (including suicide), 218.

On January 18 the bill enabling the State Board of Health to allow medical students who pass a satisfactory examination at the end of four years in an accepted college to practice during the fifth year of study, was advanced to third reading in the House.

The health commissioner of Chicago is formulating plans for decreasing the mortality among the members of various trades, from so-called trade diseases, by the systematic dissemination of information regarding the causation and prevention of these diseases.

The vaccination rule of the Board of Education of Chicago was upheld in the Circuit Court, December 23, in the mandamus suit instituted by Mr. B. F. Jenkins to compel the city to allow his daughter to attend the John Fiske Public School, although she had not been vaccinated.

The State Board of Health of Illinois has recently issued a revised edition of their circular on the subject of smallpox, in which great consideration is given to the differentiation of smallpox and chickenpox. Also a consideration of vaccination and revaccination, and many illustrations of the various conditions of the disease of small-pox where vaccination has not been practiced.

At the thirty-first annual meeting of the State Board of Health, held in Springfield, January 7, 1908, special attention was devoted to the alarming spread of smallpox throughout the state. The board directed that 100,000 copies of the circular on "consumption" may be distributed through the physicians of the state, and voted to establish 200 stations throughout the state where containers for the transmission of sputum might be obtained by physicians. In its annual report the board will again recommend the establishment of a state hospital for the treatment of tuberculosis. The election of officers resulted as follows: Dr. George W. Webster, Chicago, president, and Dr. James A. Egan, Springfield, secretary-treasurer.

Chicago's death rate for the year 1907 is 15.25 per 1,000 of the mid-year population. This is the highest rate recorded for any year since 1899, with one exception, 1903, the rate of which was swelled to 15.43 through an extraordinary circumstance, the Iroquois Theater disaster. Of the 32,143 deaths reported during the year, 17,453, or 54.3 per cent., were returned during the first half of the year; the remainder, 14,685, 45.7 per cent., during the last six months. The death rate of the first six months, 16.70 per annum per 1,000 of population, was 11 per cent. in excess of the decennial average for this period, while the rate of the last half of the year, 13.34, was 4.6 per cent. lower than the average July to December rate for the decade.

The following, taken from the *Bulletin* of the Department of Health of Chicago, Ill., illustrates some of the work being done by the Chicago Tuberculosis Institute: "During the first three weeks that the six special dispensaries of the Chicago Tuberculosis Institute have been in operation 148 patients have applied for treatment. The physicians and nurses attached to this great service report that it is their daily experience to find consumptives living in closest relation with their families and entirely ignorant of the means of preventing infection. In all such instances the dispensary physicians have instituted a manner of living that will be safer for the health of the family and at the same

time promote the health of the patient. These dispensaries will doubtless prove the means of saving hundreds of incipient cases from the dreaded disease and thousands of healthy persons from the effects of careless and ignorant exposures to infection. The educational work of the dispensaries will be as valuable as the strictly curative function. The locations and consultation hours of the dispensaries are: Chicago Polyclinic Hospital, 174 Chicago Avenue, Tuesdays and Fridays, 2 to 3 p. m.; Rush Medical College, 757 West Harrison Street, Wednesdays and Saturdays, 11 a. m. to 12 noon; College of Physicians and Surgeons, Congress and Honore Streets, Tuesdays and Fridays, 11 a. m. to 12 noon; Jewish Aid Society, Morgan and Maxwell Streets, Mondays and Tuesdays, 3 to 5 p. m.; Northwestern University Medical School, 2431 Dearborn Street, Mondays and Thursdays, 10 a. m. to 12 noon; Hahnemann Hospital, 2811 Cottage Grove Avenue, Mondays and Thursdays, 2:30 to 4 p. m."

The following, taken from the *Bulletin* of the Chicago Department of Health for January 11, is of interest because of the prevailing epidemic of influenza: "The devitalizing weather conditions that prevailed during the latter part of December, and to some extent up to the present time, are held responsible for the present excessive mortality. An abnormally high temperature, excessive humidity, a deficiency of precipitation and sunshine, are atmospheric conditions which have favored the growth and dissemination of disease germs and the lowering of vital resistance against their invasion. Not since the epidemic season of 1898-99, when the meteorologic conditions were much the same as now, has influenza played such an important part in the mortality as at the present. During the last week 31 deaths from this disease were reported, and in numerous instances it was given as a contributing cause of death. It is estimated that 30 per cent. of the population of Chicago (nearly 650,000 people) are at present suffering from influenzal colds, catarrhs, intestinal disorders, neuralgias and other protean manifestations of the malign influence of influenza. In anticipation of another pandemic of influenza the *Practitioner* (London, England) last year devoted an issue to the discussion of the disease. In one of the papers on the treatment and prevention, by Sir William Broadbent, Surgeon in Ordinary to the King, that eminent authority says: 'As a prophylactic (preventative) I early order two grains of quinin every morning during the prevalence of the epidemic, and the results appeared to be good. Of course the patients who were taking quinin did occasionally get influenza, but I have known very many instances in which this dose has made a complete difference in the patient's liability to infection and even in the general mode of life. I have, moreover, had opportunities of obtaining extraordinary evidence of its positive power. In a large public school it was ordered to be taken every morning. Some of the boys in the school were home boarders, and it was found that while the boarders at the school took the quinin in the presence of the master every morning, there were scarcely any cases of influenza among

them, although the home boarders suffered nearly as much as before. In a large girl's school near London the same thing was ordered, and the girls and mistresses took their morning dose, but the servants were forgotten. The result was that scarcely any girl or mistress suffered, while the servants were all down with the influenza.' The weather man, however, can do more than quinin, the doctor or the sanitarium toward improving present health conditions. Let him give us a normal January temperature, a snow blanket four or five inches deep, with an occasional hour of sunshine, and the state of Chicago's health will quickly improve."

NEW INCORPORATIONS IN JANUARY, 1908.

Wilton Medicine Co., Chicago; capital \$25,000; manufacturing patent medicines; incorporators, Oscar E. Leinen, Charles O'Donnell, Charles R. Francis.

Freeport Christian Science Association, Freeport; advancement of science and health; incorporators, Electa B. Breed, Sarah C. Porter, Frances E. Baker.

Co-operative Dental Supply Company of Illinois, Springfield; capital, \$10,000; manufacturers and dealers in dental and physicians' supplies; incorporators, Elmer E. Hagler, John H. Rice, George H. Westlake.

CHANGE OF LOCATION.

Dr. Charles Thompson, recently of Chicago, has located in Taylorville.

Dr. A. B. Atchinson, of Stillman Valley, has removed to Rockford, Ill.

Dr. H. Edward Sauer has opened an office in the Reliance building in Chicago.

Dr. E. J. Lee has removed from Valmeyer, Ill., to 631 Wright building, St. Louis, Mo.

Dr. I. M. Miller, of Chicago, 615 W. Adams Street, has removed to North Yakima, Wash., R. F. D. No. 3.

Dr. Arthur H. Beebe, of Chicago, 151 Southwestern Avenue, has removed to Stillman Valley, Ogle County, Ill.

Dr. Aria Louis Derdiger has opened an office at 70 State Street, Chicago, limiting his practice to the eye, ear, nose and throat.

MARRIAGES.

RUFUS COLE, M.D., Baltimore, to Miss Annie Hegeler, of LaSalle, Ill., January 2.

JOHN G. AUGUSTINE, M.D., to Mrs. Emma Merdith, both of Batavia, Ill., December 23.

R. A. MITCHELL, M.D., Marshall, Ill., to Miss Alma E. Price of Indianapolis, December 5.

CHRISTIAN FREDERICK GRIMMER, M.D., to Miss Louise M. Warner, both of Pekin, Ill., December 31.

WILLIAM HAMLIN WILDER, M.D., to Miss Caroline Louise Rothschild, both of Chicago, December 25.

H. M. McCracken, M.D., of Longview, Ill., to Miss Maude McCullough, of Scottsburg, Ind., Dec. 26, 1907.

EMIL WINDMUELLER, M.D., Woodstock, Ill., to Miss Helen Howden Armstrong, of Kenosha, Wis., Dec. 28, 1907.

DEATHS.

CLUS E. SJOWALL, M.D., University of Stockholm, Sweden, 1879; died at his home in Chicago, January 7, aged 55.

WILLIAM R. HAMILTON, M.D., aged 92, former mayor of Peoria and volunteer surgeon of the Civil War, died December 30.

F. R. WAIN, M.D., of Peoria, while visiting during the holidays in Davenport, Iowa, died in that city, of heart trouble, January 1.

JAMES CROZIER, M.D., Illinois Army Board, 1861, died at the Soldier's Home, Quincy, Ill., July 26, from cerebral hemorrhage, aged 74.

SAMUEL MUNDY (years of practice, Ill., 1877) for fifty-seven years a practitioner of medicine; died at his home in Mt. Erie, Ill., December 12, aged 81.

JACOB B. HAYES, M.D., of Carrollton, a veteran of the Civil War, graduate of the American Eclectic Medical School of St. Louis, 1878, died Jan. 17, 1908.

WILLIAM W. McCLELLAND, M.D., University of Louisville, Ky., Medical Department, 1838; died at his home in Homer, Ill., December 2, from pneumonia, after an illness of two weeks, aged 72.

WILLIAM ALEXANDER CONKEY, M.D., University of Louisville, Ky., Medical Department, 1838, died at his home in Homer, Ill., December 2, from pneumonia, after an illness of two weeks, aged 86.

ROBERT CARR BLOCK, M.D., Hahnemann Medical College and Hospital of Chicago, 1893; of Ferguson, Mo., died at a sanatorium in Jacksonville, Ill., of locomotor ataxia, after an illness of two years, aged 46.

BLEXTON HARRIS, M.D., Rush Medical College, Chicago, 1859; surgeon in charge of the Eighteenth Army Corps Base Hospital during the Civil War; died at his home in Aurora, Ill., December 25, after a short illness, aged 83.

FREDERICK H. FOSTER, M.D., Hahnemann Medical College and Hospital, Chicago, 1872; a specialist on diseases of the eye and ear; died at his home in Chicago, January 18, from nephritis, after an illness of a year and a half, aged 56.

THEODORE T. HEARING, M.D., University of Munich, Germany, 1860; surgeon of the Ninth Wisconsin Volunteer Infantry during the Civil War; died at his home in Bloomington, Ill., December 20, after an illness of one week, aged 74.

ROBERT NEWTON STRONG BARGER, M.D., Rush Medical College, Chi-

cago, 1868; a veteran of the Civil War, during which he served as hospital steward; died at his home in Hoopsdale, Ill., December 19, from cerebral hemorrhage, after an illness of three years, aged 65.

FREDERIC C. SEMOLROTH, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1873; formerly postmaster of Walnut Grove, Ill., but later of Peoria; died in St. Francis Hospital in that city, January 8, from cerebral hemorrhage, after a short illness, aged 70.

JOSEPH JULIUS OPENHEIM, M.D., Northwestern University Medical School, Chicago, 1907; of Chicago; an interne in Cook County Hospital; while delirious from typhoid fever, jumped from a third-story window at the Presbyterian Hospital, December 31, and died from his injuries, January 4, aged 23.

JOSEPH HALLER, M.D., Northwestern University Medical School, Chicago, 1862; Lanark, Ill., contract surgeon in the army during the Civil War; a member of the Illinois State and Carroll County medical societies; died at the Rockford Hospital, December 11, two weeks after an operation for subphrenic abscess, aged 71.

WILLIAM C. EGGLEHOFF, M.D., Northwestern University Medical School, Chicago, 1902; of Chicago, a member of the American Roentgen Ray Association; a member of the hospital corps during the Spanish-American War; died at Augustana Hospital, Chicago, from septicemia, said to have been due to exposure to the x -rays, December 27, after an illness of three years, aged 35.

J. HOMER COULTER, M.D., Medical College of Ohio, Medical Department of the University of Cincinnati, 1885; formerly a specialist on diseases of the ear, nose and throat, of Chicago; a member of many medical societies, and professor in Harvey Medical College and Chicago Clinical School; died in the Illinois Northern Hospital for the Insane, Elgin, July 24, from general paralysis of the insane, aged 46.

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ORIGINAL ARTICLES

THE MODERN TREATMENT OF PULMONARY TUBERCULOSIS; PRINCIPAL AGENCIES EMPLOYED.

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OTTAWA, ILL.

"The cure of tuberculosis is a question of nutrition. Digestion and assimilation control the situation, make the patient grow fat, and the local disease may be left to care for itself. This is the foundation upon which the modern treatment of consumption rests" (Osler). The application of the principles of treatment as annunciated by Osler demand, first, fresh air at all times, day and night; second, an abundant diet of mixed foods; third, exercise and rest, systematically regulated according to individual necessities. The agencies used to effect a cure are so familiar that it has led to a prevailing impression that the treatment is very simple and easy and requires no particular skill in its application. This has led to much confusion, many disappointments, and unless these misconceptions are corrected will inevitably bring the treatment into undeserved disrepute. Technic must be recognized as essential to success in the treatment of tuberculosis as in a surgical operation.

FRESH AIR.

The aim is to give the patient the largest possible amount of the best possible air. This means twelve to sixteen hours spent daily on verandas, in walking or driving or other outdoor recreation, summer or winter, rain or shine, and a sleeping apartment where there is little or no obstruction to the free entrance of fresh air. In the cold weather of winter, with the temperature below zero, the waking hours can be spent in the open air, provided the patient is well protected with wraps and furs. There need be no fear of catching cold so long as the patient is properly clothed. Fear of taking cold is the great bugbear of consumptives and their friends. Cold air in itself is not harmful, even to a delicate per-

son, and patients in a sanatorium rarely ever take cold. The open-air life soon teaches a patient to regard draughts as a bogey of bygone days. The well-clothed and nourished patient may defy the coldest temperature he is likely to encounter, and, indeed, recovery takes place more quickly in cold than in warm weather. Care must be taken to prevent patients from getting cold. This can be accomplished by nourishing food and proper clothing, allowing the patient to breathe the atmosphere at whatever the outdoor temperature may be. It is not necessary in order to keep warm to heat the atmosphere surrounding us. To do this means that the air must be confined. Confined air is never pure, and cold air is not only not harmful but extremely beneficial. Provision for keeping patients out of doors is very simple and requires no special directions except to clothe warmly and be protected from the wind, rain and snow.

It is in the matter of housing where mistakes are most frequently made. Theoretically the tuberculous patient should live in the open air all the time. This, however, is not practicable. He must have a warm place in which to eat, dress and undress, bathe and perform his toilet. In making provision for these demands we should make as few compromises as possible. The dining room should be large, light, airy and well ventilated. If properly constructed the air supplied patients during the time which they are necessarily at meals will be almost as good as the outdoor air for the short time they are indoors. The time required to dress and undress is so short that it need hardly be taken into account. The bathing and toilet facilities need not differ from those provided for normal persons. The sleeping apartment of the patient demands especial attention. To meet this demand we must make a radical departure from the conventional plan of hospital construction. It was perfectly natural that sanatoria should at first copy the usual methods of hospital construction, hence has arisen altogether too expensive and unscientific a type. Providing tuberculous patients with sleeping apartments in substantial buildings is not only unnecessary but in violation of an essential principle which has for its object supplying the patient with fresh air. The simplest and least expensive method which will protect him from the inclemency of the weather is the one which commends itself for scientific and economic reasons. All that is needed is to protect him from the wind, the rain and the snow. This may be provided by a properly constructed tent which can easily be heated for the short time necessary to dress and undress, a cheap shack, or the enclosed portion of a veranda opening from a bedroom which can be used as a dressing room, or a corner bedroom with two or more windows from which the sash should be entirely removed and the openings protected by an awning. A very good substitute when any of these are not practicable is a window tent. It is a matter of indifference what kind of a sleeping apartment is provided if provision is made for a free circulation of air and no attempt is made to heat the air of the apartment during sleeping hours. Any of these methods fulfill the conditions most perfectly from a scientific standpoint. The difficulty of keeping patients in the open air is well known. Every temptation placed before them in the way of indoor

comforts only adds to the difficulty. The only way to insure patients getting fresh air is to place them where they can get nothing else. It will not do to assume that they accept the conditions from a sense of duty alone. Some patients will, more will not.

It is inconceivable to the average person that patients can live and sleep in the open air under all conditions of climate and weather and be made comfortable. Nevertheless it is true. This prevalent misapprehension grows out of the fact that we have departed from the normal and healthful conditions of living. In passing I may say that the modern treatment of tuberculosis has not only revolutionized hospital construction for the tuberculous patient, but is destined to revolutionize hospitals of all kinds, and will finally lead to the more rational construction of our homes, which will not only prevent tuberculosis but many other diseases. It has been well said that "two-thirds of the money which is expended in constructing permanent buildings for the cure of tuberculosis is spent in overcoming the fact that they are buildings." Notwithstanding the fact that it is now definitely settled that patients suffering from tuberculosis can not have too much fresh air, we find that it is still too frequently the custom to shut them up in unventilated and overheated rooms, curtains being drawn, crevices stuffed up, lest by chance a breath of fresh air might come near the wasted sufferers. Of all the God-given agencies which make for health and vigor fresh air is the cheapest and best. We are not only denying ourselves of this beneficent agent, but are expending enormous and unnecessary sums of money in the construction of homes, hospitals and public buildings to keep out the one agent more conducive to health and happiness than any other which is our birthright.

The necessity for pure air can not be too strongly emphasized, but it should not be relied upon to the exclusion of other equally valuable agencies. The public should be taught that fresh air is only one measure in the cure of this disease and that it must be used intelligently and combined with others which are known to be of value. Its application is simple in the extreme. The simpler the better. Faithfulness rather than method is what is most required.

The advantages of fresh air may be thus briefly summarized: The patient gains in appetite, assimilates his food better, sleeps more soundly, awakens more refreshed. Free exposure to the air is the best antipyretic and practically the only agent of any benefit in combating this symptom. Night sweats usually cease without any special treatment. Colds are practically unknown among patients leading an open-air life. While patients usually dread the thought of being exposed to all kinds of weather, tolerance is quickly established, and no patient who has tried the open-air life will willingly go back to the former conditions under which he has lived. Indeed, they develop "air hunger" and find it more difficult subsequently to live in stuffy rooms than they did to become accustomed to the open-air life. No one is ever made worse by exposure to fresh air. It is used in the treatment of tuberculosis not because of its specific action but for the reason that living in the open

air gives better nerve tone, improves the appetite and aids assimilation better than by breathing indoor air which is more or less vitiated. Indeed, it has the same effect as in the case of ordinarily healthy people and those suffering from other forms of disease.

Pure air is one of the essentials in treating tuberculosis, but not, as popularly believed, the only one. The opinion is too prevalent that all that is necessary for the cure of tuberculosis is fresh air. The lay press and professional journals, in discussing the modern treatment of tuberculosis, generally treat the question as if life in the open air was all that was needed, thus misleading the tuberculous patient to his great injury. Nothing could be farther from the truth than this doctrine. The results from open air alone will not prove satisfactory. If this impression is not corrected there will be a revulsion of feeling because of the many failures which should not be laid to the measure but the method. The most absurd things are being done in the name of open air. Out-of-door life is pre-eminently the life for the cure of tuberculosis. Without it convalescence is impossible. While it is true that most patients will improve, and some even overcome their disease by living in the open air, the average case requires the assistance of other agencies equally important.

FOOD.

Food is of paramount importance. The building up of the tissues of the body and the repairing of the waste are dependent upon adequate nourishment. Loss of appetite is an almost constant symptom, and one of the earliest and most marked benefits in open-air life is an increased desire for food. As a rule, patients must be encouraged to eat, and especially in cases advanced or where they have been subjected to drug treatment. The food should be wholesome, nutritious and well cooked and served in an appetizing way. Three regular meals and at least two lunches a day. There is often a distaste for fat, which is a most important element of food for consumptives; therefore, care should be taken that this and every other agent should be incorporated with his diet. Indifference or actual repugnance to food is one of the common obstacles to treatment, and as a rule the worse the nutrition and the greater the need of food the less inclination there is for it. The condition of the digestive organs sometimes present formidable difficulties, but it is remarkable how comparatively seldom one really meets with any really serious trouble among phthisical patients. It is really quite remarkable what large quantities of food they will consume not only with comfort but pleasure and profit. The chief articles of diet are milk and eggs. Too much stress, however, has been laid upon the idea that we must crowd patients with as much milk and raw eggs as we can induce them to swallow irrespective of the powers of assimilation and the state of the digestive tract. The principles of diet in consumption are the same as in any other disease where we wish to improve nutrition, that is, to give only such quantity and quality of food as can be assimilated, no more, no less. While it is true that some patients can under proper conditions digest an astonishing amount of milk and eggs, this is by no means always the case. Not infrequently we find patients who

can tolerate milk for a short time only or not at all. The same is true with eggs. Others can take them only after careful training of their digestive organs. Others have a positive distaste for one or both of these articles, or some tire of them. It is a mistake to attempt to make such patients take even the usual amount of milk and eggs, and he who does this generally finds that first the appetite rebels and then symptoms of intestinal toxemia develop. A varied diet, nutritious in character, well cooked and within the digestive powers of the patient, will give better results than indiscriminate stuffing with milk and eggs or any other selected diet. The stage of the disease, the patient's individual tastes, habits and digestive capacity furnish the indications for the quantity and quality of his food. There is also too much of a tendency to feed tuberculous patients by laboratory methods. It is a very easy matter to figure out exactly the elementary principles of food which the patient should take. It is very different and much more difficult to get him to take it. Even the most conscientious and faithful patient not infrequently finds it absolutely impossible to take the foods which are clearly indicated. The feeding of man is not analogous to that of feeding animals, and certainly not the sick man. We must not ignore the palate and other special senses, including intelligence, which play a more or less important part in the feeding of human beings. While the patient should not be left to his own fancy in selecting his diet, we must avoid the other extreme of attempting to enforce a theoretically scientific diet. We can often accomplish by indirection what we fail to do directly. I will illustrate this point by giving a few sample menus supplied at the Ottawa Tent Colony:

BREAKFAST.

Malaga Grapes.	
Bartlett Pears.	
Rolled Oats.	Maple Flakes.
Porterhouse Steak.	Premium Bacon.
Poached Eggs.	
Escalloped Potato.	Baked Potato.
Graham Gems.	Maple Syrup.
Toast.	
Milk.	Raw Eggs with Grape Juice.

DINNER.

Vegetable Soup.	
Fillet of Veal.	
Beef Cutlets with Chestnut Puree.	
Creamed Potatoes.	Baked Potatoes.
Buttered Squash.	Asparagus on Toast.
Pineapple Bavarian Cream.	
Baked Custard.	
Milk.	Raw Eggs with Grape Juice.

SUPPER.

Mutton Broth.	
Braised Leg of Lamb.	Currant Mint Sauce.
Roast Prime Ribs of Beef.	
Scrambled Eggs.	
Mashed Potatoes.	Peas in Cream.
Celery and Lettuce with Mayonnaise.	
Sliced Oranges.	
Milk.	Tea. Cocoa.
Raw Eggs with Grape Juice.	

SUNDAY DINNER.

Puree of Peas	St. Germain.
Young Onions.	Celery. Radishes.
Roast Turkey.	Giblet Stuffing.
	Chicken Pie.
	Pan-broiled Chops.
Au Gratin Potatoes.	Grilled Sweet Potatoes.
Wilted Endive.	Curried Vegetables.
	Waldorf Salad.
Maple Ice Cream.	Angel Food.
	Cocoanut Souffle.
Cream Cheese.	Salted Wafers.
	Coffee.
Milk.	Raw Eggs with Grape Juice.

Lunches at 10 a. m., 3 p. m., with an optional lunch at 8 p. m. These lunches always consist of milk, raw eggs with grape juice, graham or salted wafers. Mixed nuts and assorted fruits *ad libitum*.

In looking these menus over even carefully they would not seem to differ from the diet ordinarily provided in any well-regulated home or first-class hotel. The casual observer would not be likely to notice any material difference even in partaking of them. There is, however, a very material difference, which consists in the manifold ways in which the elementary principles of food are incorporated in proper proportions in such a manner that they will be acceptable to the patient, and in many instances he will be induced to partake unconsciously of the very foods which under other conditions would have been refused or not tolerated.

Attention is called to the absence of pastries and confections, for which desserts containing milk and eggs are usually substituted. Especial care is taken in the preparation of these menus to incorporate milk and eggs with other articles of food wherever possible. The dietary should consist of the very best foods obtainable and in as great a variety as possible. As a rule only a few articles should be supplied at each meal, but the variety should be from meal to meal and day to day as the market will afford. It will also be observed that there are several articles included which have no particular food value. These are simply relishes. Theoretically they have no value. Practically they have considerable value because by permitting them patients are induced to eat other foods which they otherwise would not. It requires great skill to prepare a dietary for tuberculous patients which they will accept. The principle should be to coax them to eat rather than to force or even depend upon them eating simply from a sense of duty. The direction to patients to take nourishing food even if certain articles of diet are specified is too general to be of any practical value. Food stands in the same relation to the treatment of tuberculosis as drugs in the treatment of other diseases. It is quite as irrational to give general directions to the patient as to his diet when treating tuberculosis as it would be to name a number of leading drugs in the treatment of pneumonia or typhoid fever and leave it to the discretion of the patient as to what to select and how much to take. The kitchen stands in the same relation to the sanatorium for the treatment of tuberculosis as the well-regulated pharmacy in the treatment of all diseases to which drugs are applicable. Dettweiler said: "My kitchen is my pharmacy."

There is a vast difference between the patient catering to his own palate and having it done for him. In the first instance he is almost certain to select the articles of food which are least nourishing and probably the most indigestible. In the second he can be induced to take such food as his condition demands and usually finds it appetizing. The secret of success in dieting tuberculous patients is to make the dietary apparently conform to that supplied to the normal person, but really incorporate those elements of which the patient stands in so much need but either will not or can not take. By skilfully taking advantage of the sense of taste, smell, sight and hearing we can induce patients to take food because they enjoy it when they would not from a sense of duty. The patient who can not be induced to eat, or who for any reason can not eat a sufficient quantity of food, will not get well no matter how slight the local lesion. The key to success more largely depends upon diet than any other factor in the treatment. It may be accepted as a rule that the patient who can eat and digest large quantities of nourishing food may be regarded as curable, no matter how extensive the local lesion.

The tuberculous patient should not be exposed to the temptation of, or compelled to dine at, a table prepared for well people, no matter how bountiful, varied or well cooked the food may be. He will be tempted to eat many things he should not and be denied many he should have. Here, as in everything else, the only way to insure that a patient will do the right thing is not to tempt him to do wrong. It is the careful attention to details which makes for success in treatment of tuberculosis as in everything else. The fate of our patient is often trembling in the balance, and not infrequently careful attention to some apparently trifling detail turns the balance in his favor. To feed patients properly is very expensive. The more nearly ideal, the more expensive. This, however, is what produces results. The most liberal dietary, even for the well-to-do patient, is not so expensive and is far more rational and useful than the present custom of building palaces for charity patients which is neither rational or necessary. The cry is going up from all these elaborately expensive sanatoria for funds for maintenance. Lack of funds makes it necessary to economize. This is usually done on food, to the great detriment of the patient.

Nutritious food, even when its importance is recognized, is not as a rule rationally applied. Too many physicians even regard making the patient fat as the one aim in feeding. Acting upon this principle there is almost no limit to the length to which some have gone. Patients have been compelled to take several quarts of milk a day and from one to two dozen raw eggs, besides three regular meals of solid food. This, too, as a routine practice without regard to the weight, appetite, power of digestion, etc., of the patient. The chief aim of feeding should be not to make fat, simply, but to bring our patients to the highest state of nutrition. This can only be brought about by a selected diet suited to the digestive, assimilative and excretory powers of the patient. We must use common sense in the application of food as in everything else. We should

not act upon the irrational principle that if "a little is good, more is better." Such a course lowers rather than raises nutrition. We must not lay too much stress upon gaining weight. A gain in weight is desirable and, as a rule, indicates improved nutrition, but this is not always so, and especially if brought about by overtaxing the digestive organs. Getting fat is not necessarily getting well.

Since the chief end to be attained in treating tuberculosis is to improve nutrition, it follows that feeding plays a most important part. It is a mistake, however, to establish an arbitrary diet either as to kind or quantity and insist on each patient coming up to this standard. The alimentary canal is easily disturbed, and it is well to watch its condition carefully and regulate food accordingly. The patient's individual tastes, habits and digestive capacity furnish valuable indications for the quantity and quality of food which should be taken. These should not be blindly followed, neither should they be ignored.

EXERCISE.

There is no element in the treatment of tuberculosis that has been more abused and brought greater disaster to the patient than exercise. For some unaccountable reason not only the laity but physicians as well have become imbued with the idea that indiscriminate exercise enhances a cure. They are told to get out and "rough it." Such advice is pernicious and results in disaster to most patients who try it. Respiratory gymnastics are also pernicious when carried to an extreme and the tuberculous patient is very apt to go to an extreme with any kind of exercise when unguarded or left to his discretion. Rest and exercise must be graduated to suit each individual case. There is little fear that patients will not get enough exercise, but great danger that they will not get the required amount of rest. Injudicious exercise is the rock upon which many a patient is wrecked. So difficult are some to control that they often disobey instructions by taking exercise clandestinely, thinking it is all right if the doctor does not know it. Such indiscretions are generally followed by recurrences or advances of the disease which sometimes require months to arrest. Exercise favors the absorption of toxins, while quiet and rest reduce it. If rest is an essential factor in one infectious disease, why should we depart from the rule in tuberculosis?

The majority of consumptives under treatment usually feel so well that it is hard to keep them within bounds. Indeed, when the patient is improving there seems to be an exuberance of spirits and a desire to exercise which is above the normal. Patients even with a moderately high temperature are not sick enough, in their own opinion, to stay in bed. As a general rule, it may be said that when a temperature is 100 degrees or more the patient should be kept at absolute rest until the afternoon temperature is not more than one degree above normal for several days in succession. Walking is the most easily regulated and for most cases the best kind of exercise until the disease is arrested. These walks should be prescribed with the same care as would be taken in writing a prescription for medicine. When a patient has gained in strength to a

considerable degree and there is an abatement of all the active symptoms, exercise can be increased and more varied. Until a cure has been effected, however, it is unwise to permit the more violent sports or labor. Temperance should be the rule in everything, and in nothing more than in exercise.

The apparent simplicity of the treatment is what has given rise to the erroneous impression that a person suffering from this disease, especially in the early stages, needs very little guidance and no medical supervision. It is assumed that all that is necessary is a few general directions as to stuffing himself with milk and eggs, taking plenty of exercise, and life in the open air. On the contrary, every detail of the patient's living requires careful regulation if the treatment is to be successful. This is especially true of rest and exercise. The great necessity for rest can not be too strongly emphasized. It is a mistaken idea to suppose that strength can be built up by active exercise. A strictly incipient case is frequently converted into a moderately advanced one and the time necessary for treatment indefinitely prolonged, while a favorable result becomes more doubtful. Rest and exercise are comprehensive details, and there is no one feature of the treatment that requires such careful discrimination upon the part of the physician as in this one item. More people suffering from tuberculosis have been killed from overexertion than by any other error. While it is true that exercise must be carefully regulated, it is also necessary to take the prescribed exercise regularly and faithfully. Brehmer's rule should always be kept in mind: "A normal person rests when he is tired. The tuberculous patient should rest so as not to become tired." It is not a question of what a patient can do with impunity, but what can be done with safety. One authority states that forty-one out of sixty-two patients under his observation who were making rapid progress toward recovery lost their lives as a direct result of injudicious exercise. When in doubt, err on the safe side, which means not to exercise.

A conscientious and intelligent patient may be trusted to carry out instructions with regard to living in the open air, and to some extent be left to his own judgment in the matter of his diet, but no patient, however intelligent or conscientious, can be safely left to his own discretion as to how much or how little rest he shall take. There is no one cause responsible for so many relapses as the failure to understand and meet the indications for rest. Even when the patient is under constant supervision, with complete data before him, the physician finds the regulation of exercise is exceedingly difficult, and even he not infrequently errs in judgment. His errors, however, need not be serious, for the reason that he extends the amount of exercise so cautiously that any mistake on his part can easily be corrected before serious damage is done.

TUBERCULIN.

We have another valuable agent in tuberculin. It is not as yet established in public and professional confidence on account of its untimely announcement and reckless use when first introduced some fifteen

years ago. That tuberculin was a failure when first introduced is a matter of medical history, and was due to the fact that it was not known at that time that the symptoms of an active tuberculosis are not due simply to the tubercle bacillus, but to a mixed infection; it was administered to all classes of cases without reference to the extent of the lesion or complications; it was regarded as a specific, and given in heroic doses at short intervals regardless of the reaction or other results produced. Its announcement was premature and the claims made for it were so extravagant and sensational that it is no wonder that it rapidly fell into disuse. The disappointment which followed was so great that it was discarded completely, and from that time until very recently the mere suggestion of its use was enough to call forth its condemnation. There were a few painstaking scientists, however, who saw great possibilities in tuberculin and set for themselves the task of retrieving it from the many rash and unscientific mistakes which had been made. The number of investigators has gradually increased until its value as a therapeutic agent is no longer an open question. In view of the well-founded prejudice which resulted from its irrational use, the experiments which have been carried on during the past fifteen years have been conducted with great caution and but little publicity, which makes the reports of investigators doubly valuable. There is still much prejudice to overcome, but this is largely confined to physicians who have given the matter but little attention and are acting upon the opinions formed as to its effects many years ago.

Mitulescu, one of the late investigators along this line, gives his unquestioned endorsement of the combined method, by which is meant the addition of tuberculin to the open-air treatment. He says: "These two forms of treatment are mutually complementary and the successes obtained by the combined treatment are much greater than those resulting from the use of either method separately. The dietetic treatment supplies the need of furnishing the cells with the necessary restoratives and of increasing their nutritive capacity. Specific substances are formed only in such amounts as the organism needs at a given moment. The infection and intoxication remain hidden in order to break out again when the organism is in a weakened condition. By the simultaneous use of the dietetic and specific treatment a general as well as a specific stimulus is given to the cells to form substances which tend to render the condition of life unfavorable for the bacillus by diminishing its toxicity and thus securing a permanent cure. This method is being adopted more and more extensively, for it is apparent that it gives favorable results."

Trudeau, who is most conservative in every statement he makes, is one of the prominent investigators who has adhered to his faith in tuberculin all through the stormy period of its existence, and that, too, despite the fact that it was so unpopular that it was almost as much as even his reputation was worth to even suggest its use. He says: "Many years ago, in spite of the general denunciation of tuberculin, and long before I knew anything about the statistical evidence, I had formed the

opinion that tuberculin, when carefully administered, had within certain limits a favorable influence on the course of the disease and that the results of sanitarium treatment could be improved and made more permanent in many cases by its application. As years passed I have seen no reason to change this opinion."

Trudeau, in a comparison which he makes of an equal number of treated and untreated cases, deduces the fact "that 18 per cent. more of treated incipient cases are living than untreated, while 25 per cent. more of advanced cases who received tuberculin are living than of those who did not."

Engleman has collected statistics from a large number of European sources and compares the results from the combined method with those obtained with simply dietetic treatment as follows: Simple treatment in first stage, 44 per cent.; combined treatment in first stage, 90 to 100 per cent.; simple treatment in second stage, 16.7 per cent.; combined treatment in second stage, 40 to 50 per cent.

Tuberculin is not a specific. Neither can it take the place of hygienic-dietetic treatment. It is simply a valuable adjunct which should be used in connection with the usual methods whenever indicated. Unfortunately, in our present state of knowledge its use must be confined to selected cases. Its value in localized lesions where its action can be observed is unquestioned. Since its action is not local, we have a right to assume that its benefits are no less in the pulmonary than other forms of the disease. We can not look in upon the lesion and see the healing process as we can where the eye, the larynx and some other organs are involved, but its value in pulmonary cases is clearly proven by clinical results. The use of tuberculin has made it possible to cure tubercular laryngitis, which has hitherto been regarded as a hopeless complication of a hopeless disease.

Space forbids the quoting of extensive statistics and opinions, or a prolonged discussion of this topic. My purpose is simply to call attention to this very important therapeutic agent with a view to overcoming the prejudice which exists against its use by stimulating an investigation of the latest literature on this subject. While we are using tuberculin at the Ottawa Tent Colony, I refrain from giving any statistics, for the reason that they are too meager to have more than a personal value. I may say, however, that so far as our experience goes, we are not only favorably impressed but urging its use in all suitable cases. By the combined method of treatment we are certainly giving the patient the benefit of every agency known to science by which a cure can be effected. There is no longer any question as to its value and absolute safety if used judiciously, and the patient who does not accept it, if eligible, is discounting his chances of a permanent recovery from 15 to 25 per cent. It must not be given in a routine manner. If administered carefully and scientifically the results are eminently satisfactory. The reports from investigators of the highest standing and largest experience uniformly agree that the results of the combined method are more permanent—a decided advantage in a disease which is so subject to relapse.

THE HEATH MASTOID OPERATION WHEREBY THE DISEASE IS CURED AND HEARING RESTORED.*

WILLIAM LINCOLN BALLENGER, M.D.

CHICAGO.

The Heath operation may be called a modified radical mastoid operation, though it does not include the exposure of the middle ear. It does, however, include the plastic meatal flaps and the removal of the posterior bony wall of the meatus down to the annulus tympanicus. The post-auricular wound is closed as in the radical operation. Otherwise the operative technic is the same as the simple mastoid operation.

The advantages claimed for this operation over the radical operation in chronic mastoiditis are (a) the preservation of the function of

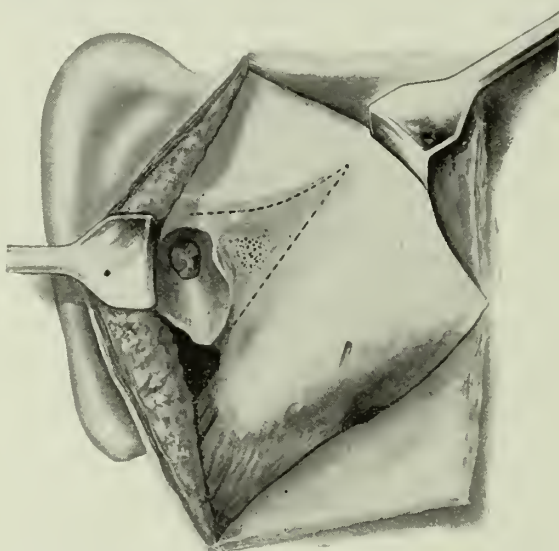


Fig. 1.—The post auricular mastoid incision, a, a', the primary incision; b, b', the secondary incision.

the middle-ear contents and of the membrana tympani; (b) the improvement in the hearing, whereas in the radical operation the hearing is usually impaired; (c) the perforation in the membrana tympani often closes in a few weeks after the operation; (d) the morbid process in the tympanic cavity subsides even though necrosis and granulations are present; (e) the antrum and mastoid cells are drained into the auditory meatus through the opening in the posterior wall of the meatus, thus relieving the Eustachian tube of the excess secretions. The principle upon which the operation is based is that if ample drainage is provided the infectious process tends to subside. The removal of the posterior wall of the bony auditory meatus and the retraction of the plastic meatal skin flaps into the mastoid wound provides for the drainage of

* Read at the meeting of the Chicago Medical Society, Dec. 4, 1907. For discussion see page 329.

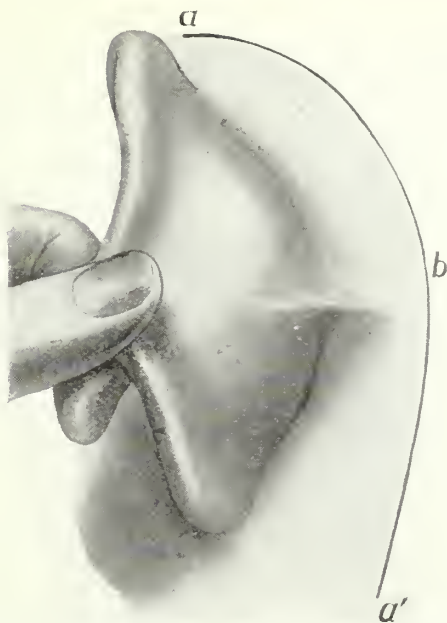


Fig. 2.—The anatomical landmarks for opening the mastoid antrum. The supra-meatal triangle, the spine of Henle, and seive-like depression.

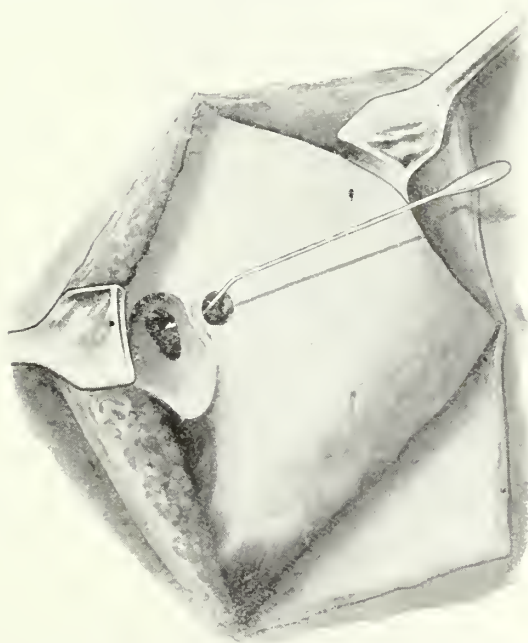


Fig. 3.—The opening into the mastoid antrum made with the Russian perforator. The fact that the silver probe passes forward through the aditus ad antrum into the cavum tympani is proof that the pneumatic space at the bottom of the wound is the antrum and not a mastoid cell.

the mastoid antrum and cells, and thus removes the stress from the Eustachian tube. The Eustachian tube being relieved is usually ample to drain the cavum tympani even when chronically infected. As a result the resistance of the diseased membrane, periosteum and bone is increased and the infection gradually subsides. The mucous membrane, periosteum and bone become healthy and "heal out."

Heath claims that the removal of the fragments of the malleus and incus in the radical operation often disturbs the relation of the stapes to

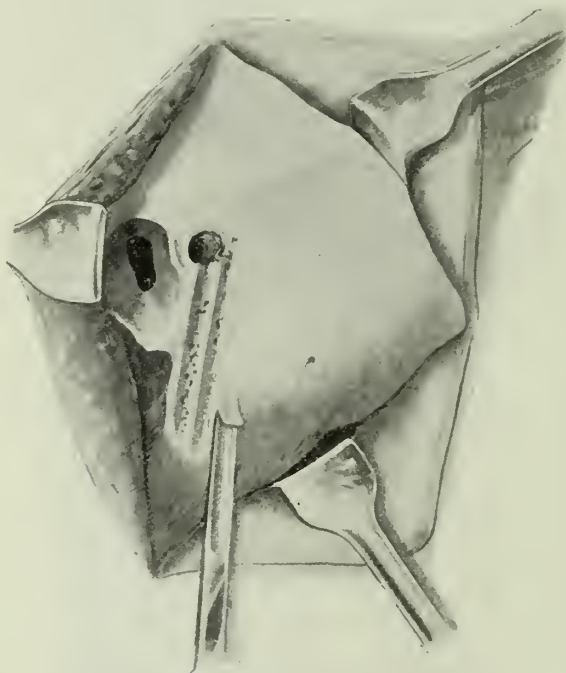


Fig. 4.—The removal of the cortex of the mastoid process.

the fenestra vestibule (oval window) and thus impairs the hearing. That is, the stapedius muscle pulls the stapes backward and displaces the foot-plate of the stapes in the window. This could be obviated by severing the tendon of the stapedius muscle. The reported cases operated by the Heath operation have been so few in number that it is impossible to estimate the place the operation should have in the surgery of chronic mastoiditis. The results thus far reported have been so good, and the principles upon which the operation is based appear so rational, that the technic of the operation is herewith given:

TECHNIC.*

(a) Prepare the patient as for the simple and radical mastoid operations.

* The details of the technique are largely given in the illustrations and the legends accompanying them.

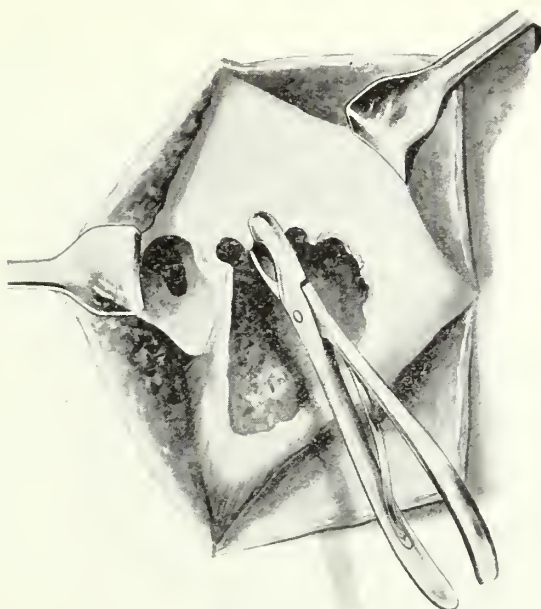


Fig. 5.—The completion of the removal of the mastoid cortex with the rongeur forceps. The cells may also be removed with the same instrument.

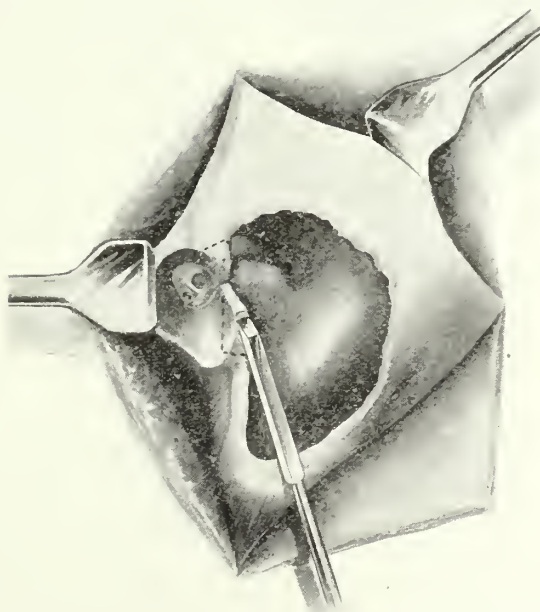


Fig. 6.—The removal of the posterior wall of the external auditory meatus down to the annulus tympanicus in the Heath operation. The dotted lines indicate the amount to be removed.

(b) Expose the mastoid antrum and cells as in the radical operation (Figs. 1, 2, 3, 4, 5).

(c) Remove the posterior bony wall of the auditory meatus down to the annulus tympanicus or drumhead (Fig. 6). At no time during the operation should the membrana tympani and the ossicles of the cavum tympani be injured by probing or other instrumental procedure. The introduction of a probe into the meatus to determine its depth and direction, as recommended in the radical operation, should be studiously

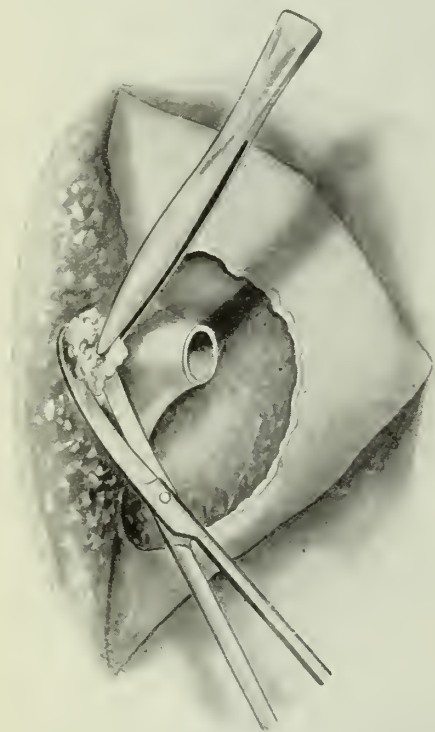


Fig. 7.—Removing the fibrous and muscular tissue from the posterior surface of the cutaneous meatus and concha, preparatory to making the plastic meatal flaps.

avoided. If this precaution is not observed the ossicles may be dislocated and the hearing impaired. The posterior wall of the meatus should be removed as widely as possible so as to provide free drainage and access to the exenterated antrum and mastoid cells through the auditory meatus during the after-treatment. It is sometimes necessary to remove some bone from the superior wall of the meatus.

(d) The plastic meatal flaps (Figs. 7, 8, 9, 10) should be formed as in the radical operation. The operator's individual preference may be used, though it is essential that the skin of the concha be included so as to enlarge the meatal opening to facilitate the application of the dressings to the mastoid wound and to facilitate the inspection of the membrana tympani in the after-treatment. Personally,

I have found the Ballance incision the most satisfactory for this purpose.

(e) After splitting the cutaneous meatus, retract the plastic skin flaps with the author's retractor (Fig. 11) to bring the membrana tympani into view. This will greatly facilitate the next step in the operation, as it is necessary to see the membrana tympani during its performance. If the meatal retractor is not used the meatal flaps will constantly obstruct the view and hinder the operator in his work.

(f) Insert a canula, as recommended by Heath, into the aditus ad antrum, via the antrum, and with an attached rubber bulb send blasts of air into the cavum tympani (Fig. 11). The secretions and pedunculated granulations within the middle-ear cavity are thereby blown out

through the perforation in the membrana tympani into the auditory meatus and removed. The middle ear may also be irrigated with the same apparatus.

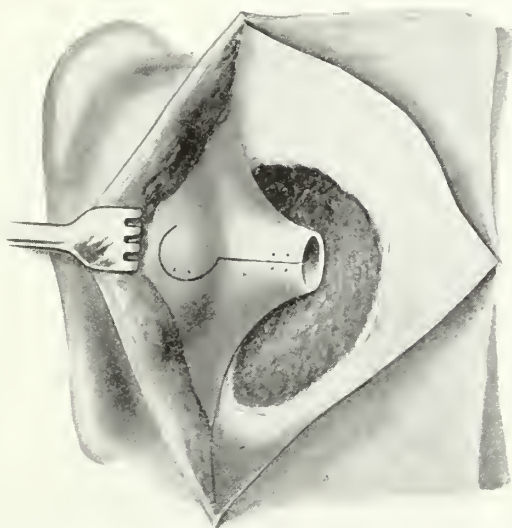


Fig. 8.—The Balance incision. The straight portion is made in the posterior inferior portion of the meatus, and the curved portion in the concha. The curved portion should be made from the anterior aspect of the concha.

(g) When granulations or polypi are thus blown through the perforation they should be grasped by small dressing forceps and removed. If

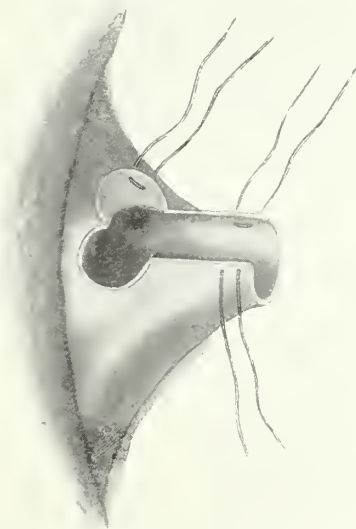


Fig. 9.—The plastic flaps slightly retracted with the anchor sutures in position.

they appear at the perforation, but do not protrude through it, they may be grasped by gently pressing the forcep blades (one on either side of the perforation) against the margin of the perforation, thus bringing them within the grasp of the forceps (Heath). The blasts of air should

be repeated until all the secretions, polypi and débris are expelled from the tympanic cavity.

Canulæ of various sizes should be at hand, as one should be selected that fits the aditus ad antrum. If the canula is too small it may pass so far into the aditus as to dislocate the incus and thus impair the hearing. It may be necessary to modify the shape of the antral aspect of the aditus with a small curette or hand burr to adapt it to fit the canula.

(h) Having removed the secretions, polypi and débris from the tympanic cavity with the air blasts and forceps, place a small wet pad of cotton over the perforation in the membrana tympani and a small plug of the same material in the antral end of the aditus ad antrum to keep the blood and bone chips from entering the middle ear.

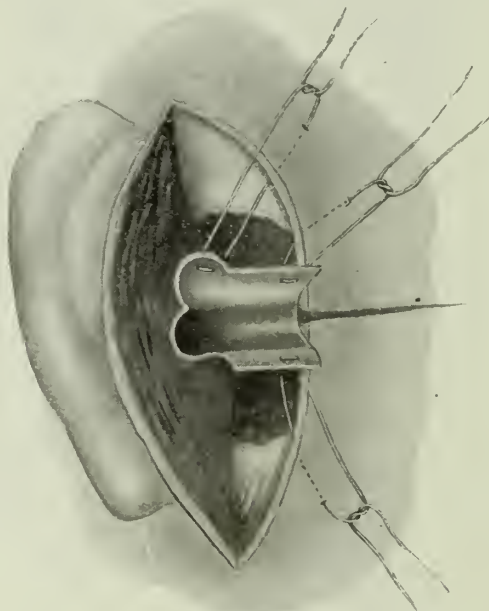


Fig. 10.—The plastic meatal flaps with the anchor sutures in position. When the auricle is placed in its proper position and the anchor stitches are drawn over the rolls of gauze the plastic meatal flaps will partially line the mastoid wound.

(i) Anchor the plastic meatal flaps, as in the radical mastoid operation, with suitable stitches (Fig. 12).

(j) Close the postauricular incision throughout its entire length, as in the radical operation.

(k) Introduce a cigarette drain through the auditory meatus into the mastoid wound (Fig. 13). Do not place it against the membrana tympani, but pass it backward through the opening in the posterior wall of the meatus into the mastoid cavity. If other forms of dressing are preferred they should be introduced in the same manner. Whatever dressing is employed it should be loosely placed, not packed, as its primary purpose is to facilitate drainage. Some operators recommend that gauze be firmly packed into the mastoid wound to "keep down" the granulations.

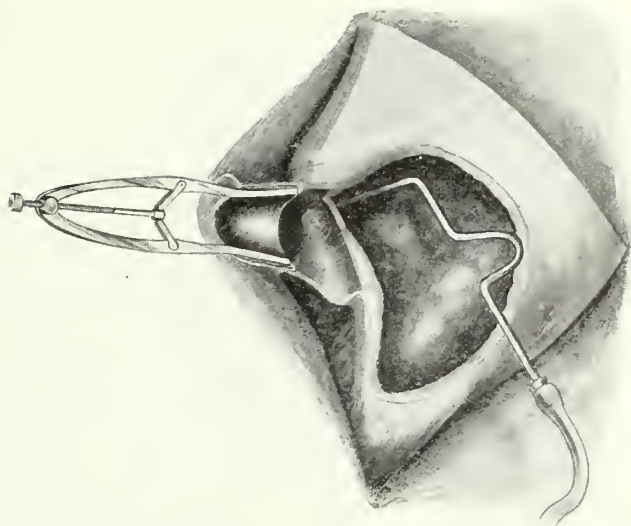


Fig. 11.—The Heath mastoid operation complete. The curved canula is inserted into the aditus ad antrum preparatory to blowing a blast of air through the cavum tympani to remove the secretions and debris. The author's meatus retractor makes the view of the membrana tympani possible during the procedure.



Fig. 12.—The post auricular incisions closed and the anchor sutures tied over small rolls of gauze. The anchor sutures retract the plastic meatal flaps into the mastoid wound, when they become adherent and partially cover the bony surface with true skin. The whole surface is finally covered by extension from the borders of the plastic flaps.



Fig. 13. The drainage dressing, consisting of a spirally cut soft rubber tube with a small wick of gauze in its lumen.

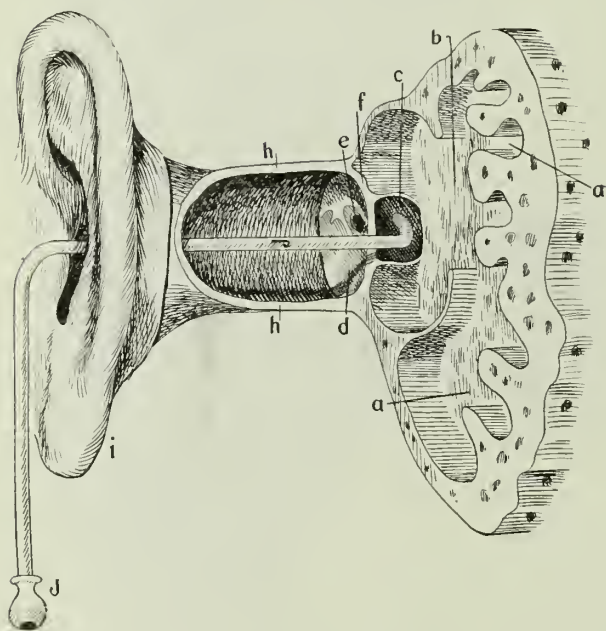


Fig. 14.—Schema showing the method of applying the canula to the aditus ad antrum for the purpose of blowing blasts of air through the middle ear. a, a, Mastoid cells; b, mastoid antrum; c, aditus ad antrum; d, membrana tympani or drumhead; e, perforation of the drumhead; f, annulus tympanicus, to which the posterior wall of the bony meatus is removed; h, h, opening in the posterior wall of the meatus through which the canula (j) is introduced to the aditus ad antrum (c): J. J. Canula.

If the operation is properly done exuberant granulations will not form; furthermore, good drainage lessens the tendency to the growth of exuberant granulations. Exuberant granulations are the products of infection, whereas healthy granulation tissue is formed in the process of repair. Firmly packed dressings are contraindicated because they obstruct drainage and prevent the regeneration of the tissues. Loose dressings are indicated because they facilitate drainage and thus favor the regeneration of the tissues. The ear should be covered by several large gauze pads and held in position with a roller bandage.

After-Treatment.—The first dressing should be removed in three days, the wound gently dried with a cotton-wound applicator introduced through the auditory meatus and a new loose dressing applied. This should be changed daily. The sutures should be removed on the fifth day. The membrana tympani should be inspected daily, especially when the blasts of air are forced through the aditus ad antrum. After the mastoid wound is cleaned with the cotton wound applicator the curved canula should be introduced into the aditus ad antrum via the meatus and the opening in the posterior wall of the meatus and blasts of air forced through the tympanic cavity to clear it of secretions and granulations (Fig. 14). All granulations or polypi appearing at the perforation in the membrana tympani should be removed with forceps. The aditus becomes permanently closed in one or two weeks. The secretion from the middle ear gradually subsides and the perforation in the membrana tympani as gradually closes. The mastoid cavity either becomes filled with connective tissue, thus closing the aditus, or it becomes lined with epidermis and remains a dry cavity. In either event the Eustachian tube is no longer burdened with the secretions from it, but only has those from the middle ear to dispose of.

I wish to say in conclusion that the ten cases I have operated by this method have invariably shown great improvement in hearing, and the curative effects have been as good as are obtained by radical operation. The chief argument in favor of the Heath operation is the restoration of hearing. It is an operation that should be performed in most of the cases of chronic ear discharge, as when early applied a cure results and the hearing is restored. The radical operation can not be urged in many of these cases because it is a formidable procedure and often impairs the hearing. The Heath operation is not a formidable operation, though it cures the disease and restores the hearing.

103 State Street.

MEDICAL ORGANIZATION AND THE NORTH CENTRAL ILLINOIS MEDICAL ASSOCIATION.*

W. O. ENSIGN, M.D.

RUTLAND, ILL.

The anniversary character of the date on which we have been brought together on this occasion may reasonably appear to justify a departure

* An historical address before the North Central Medical Association on the occasion of occupying the chair as president a second time, after an interval of a quarter of a century, including also a later supplementary paper.

from the usual custom of presenting a formal address on some professional topic, more clearly within the domain of recent progress in either medicine, surgery or sanitation, and the devotion of the entire time, now at command, to an informal presentation of some items of a more historical and biographical character, relative to the organization, early membership and subsequent development of this association.

In thus for the first time attempting, as is here done, to collect together such facts and place them in intimate association as a connected account of the conditions and circumstances which eventually led up to, and the individuals who were concerned in, accomplishing this society's formation a third of a century since, it may be likewise desirable, to a more full and complete understanding of the situation at that time, to take a hasty glance at medical organization within this country, throughout our own state and especially in that portion of it which was subsequently to become, so to speak, the sphere of this association's influence.

Further justification for such a departure from usual methods may also be found in the fact that of the original membership of this organization, now holding its thirty-fourth annual meeting on the thirty-third anniversary of its formation, two-thirds of its founders have already passed away, while but five only of the original fifteen remain. Of those who survive, it might be further stated that but three only are at this time residents of its territory or within the State of Illinois, and that two of such trio have, in a very great measure, retired from active participation, although by no means to be considered disinterested members, in its proceedings. Thus there are now left with us but few members who are still familiar with the surrounding circumstances connected with the organization of this society at the period named. In view of such conditions may we not confidently believe that those present will fully approve of an attempt to put on record on this occasion such facts ere they have passed out of individual knowledge or into the oblivion of human forgetfulness? In entering upon this undertaking, we are confident nothing will be discovered that can in any wise decrease the just pride and honor which, it is believed, each individual in this association may feel in having been accounted worthy to have been admitted to its membership.

THE EARLY MEDICAL PROFESSION.

From the limited number of the early colonists and the nature of the circumstances attending their hazardous enterprise of seeking a new home on the "stern and rock-bound coast" of an unbroken country, no profusion of thoroughly qualified medical men were likely to be then found among their number, or even for many years later; so that while men of the clerical profession, who in those days were sometimes of the medical as well, or others of varied learning and mental accomplishments were not proportionately wanting during the early settlement of the country, members of the medical profession, from Dr. Samuel Fuller of the *Mayflower's* pilgrims, down to his immediate successors, may be supposed to have been too few in numbers and too widely separated to have been able to unite into societies for professional interest and improvement.

During the seventeenth century no very rapid developments or improvements, professionally speaking, had been made in the conditions surrounding the practitioner of medicine. However, the country was not wholly without some most intelligent and capable physicians; while it was during this period that two students of Harvard College became the pioneer Americans to complete a medical course abroad, and to return thus fully equipped to practice their profession among the colonists, where no similar facilities for obtaining a medical education then existed. It was in 1677 that Dr. Thatcher, both a minister and a physician, put forth "A Guide in Smallpox and Measles," the first medical publication, it is claimed, ever to have been issued in America.

The forepart of the succeeding century witnessed several private hospitals instituted, as had been one or more in New York City, of somewhat uncertain general public character, some thirty to fifty years previously, and these were followed in 1752 by the first general hospital, which was established at Philadelphia, Pa. Around this latter institution grew up the first clinical course of medical lectures which was then delivered by Dr. Thomas Bond, although special courses upon certain branches of medicine had, for a considerable time previously, been occasionally delivered by others. Eventually and from such conditions there resulted thirteen years later the first organized medical school. The early medical text-books had been for a long time the product of European authors almost exclusively, but this period saw the beginning of a medical literature in our own country, yet by no means one of extensive proportions.

THE RELATION OF MEDICAL ORGANIZATION TO MEDICAL EDUCATION.

Mention of the foregoing brief facts is here made, because the intimate relation of medical organization to medical education and progress admits of no clear understanding of the former without a more or less consideration of the latter in the same connection. With the steady growth of the colonies, the corresponding advancement of the medical profession in numbers, and the increase of privileges for obtaining a more thorough qualifications for its practice, there very naturally sprang up, among educated physicians, a desire for more and better opportunities for professional intercourse and improvement, including, among others, such as might be obtained by a mutual comparison of methods and experiences, as well as for the purpose of associated efforts toward stemming the full tide of incompetency and ignorant assumption, in the multiplied forms which then flourishingly existed about them. This led to the organization of medical societies for the objects mentioned and likewise for a general increase of the knowledge and experience of the individual members of such societies.

Of first medical organizations, it may be stated that a society existed in New York City as early as 1749 at least, at one time noted by the eminent Dr. John Bard as "A Weekly Society of Gentlemen in New York." This body, it is claimed, was continued for more than forty years, when it was merged in the "New York State Medical Society" (then practically of New York City only) and later passed over into the "New York County Medical Society."

Probably the first well-recorded and continuous medical society of this kind was permanently organized at New Brunswick, N. J., in 1766. Its worthy objects were most clearly and succinctly set forth in the preamble of the regulations then adopted and were such as to constitute an equally appropriate declaration for other similar organizations even of a much later period. Its purposes were declared to be "mutual improvement, the advancement of the profession, the promotion of the public good and the cultivation of harmony among the brethren." Let us here repeat and thus emphasize the last purpose named, viz.: "the cultivation of harmony among the brethren." This society continued to prosper until the War of the Revolution arose, demanding, for a considerable period, the loyal energies of many of its members, in often widely separated and perilous fields of usefulness and duty. With the close of that war, other societies came into existence, while the first mentioned revived later to become the State Medical Society of New Jersey. Other institutions providing medical instruction began to arise and near the close of the eighteenth century the first original medical journal appeared in the *Medical Repository*, a publication established in New York City.

With the coming of the nineteenth century, several of the original states had provided for medical societies chartered by legislative enactment. That of Maryland, taking the most advanced standing, instituted a state examining board and provided that all licentiates of such board should thereby be constituted members of the State Medical Society, which it had thus duly incorporated by law. Up to this period most of the medical societies then organized had been located in the larger cities and thus a majority of the profession were, as yet, without the privileges of organized association and as a class, we may believe, were, to a considerable extent, as it has been said, "alike unsocial and ungoverned by ethical laws and consequently without harmony of action."

Passing over much of interest during the immediately succeeding years, we may stop to mention, as of no little importance, the organization, under authority conferred upon its State Medical Society so to do, by the legislature of New York, April 4, 1806, of local or county medical societies throughout that state. This plan, when carried out, proved to be more successful and beneficial than any other that had been previously adopted and likewise, as an example to others, a step of great importance and influence in promoting the advancement of further medical organization over the entire country. This was soon apparent and decided, as shown to be true, in the general relations of members of the profession with each other. The frequent mutual interchange of sentiment and personal experiences which took place in the local societies led to a better understanding among their members and to feelings of more general and personal regard one for another. As a further beneficial result there arose a united desire for ethical rules for their own direction and guidance in their daily relations with their fellows. Codes, or rules of conduct, were thus deemed essential and were duly formulated, by means of

which physicians were induced to meet in a more respectful, charitable and honorable intercourse, both professionally and socially.

As these cordial relations were fostered and strengthened by more frequent personal and professional association through the medium of medical organizations, new desires were inspired in the interest of individual and mutual improvement and the advancement of scientific medicine. More available means of medical instruction, a higher standard of preliminary qualifications and a better theoretical and practical training for the practice of the healing art thus came to be mutually held by them as essentials to an intelligent and successful practitioner's complete preparation for the duties of his important profession.

Medical organization was not without other favorable results among the profession, since, as it progressed throughout the country, there was found to exist more general and practical knowledge of medicine and more appreciation of the corner stones of a good medical education, viz.: anatomy, chemistry, physiology and therapeutics. Medical schools came to be more generally patronized and medical literature more appreciated and better cultivated. Indeed, it might be fairly estimated that from but fifty medical graduates annually in this country in 1800 the number had arisen to thirteen hundred in 1850. For this progressive increase in the number of educated physicians the stimulation given by the various organizations composed of members of the medical profession, possessing degrees from regularly equipped schools for medical instruction, must have had far more influence in accomplishing than has usually been properly accredited to this efficient source of inspiration. What must have been true in this respect then has been no less so down to the present time.

MEDICAL ORGANIZATION IN ILLINOIS.

During the early part of the nineteenth century, among the territories of our country formed into constituent states of the federal union, was that of Illinois in 1818, at this time with but fifteen organized counties, although eventually to be developed into 102 such subdivisions. The immediately succeeding 25 years saw the founding of Rush Medical College at Chicago in 1843, and might possibly have seen within our state a few medical societies locally instituted, wherever a sufficient number of physicians may have become availably situated to permit of an organization, but, if so, doubtless such must have been of short duration, as few have left any record of their transactions to attest the fact that they had ever existed.

An organization denominated "The Medical Society of Illinois," relative to which we are not now prepared with evidence to prove or disprove a claim to its having been the first medical society within the state, met at Springfield in January, 1840, and adopted a somewhat abbreviated fee-bill, with a series of resolutions governing its enforcement. Such action was duly attested by Dr. John Todd as president and Dr. C. E. Hughes as secretary. More than a few items of further history concerning this society we do not now possess, but, like many of the pioneer organizations, it doubtless had but a brief existence. At least ten years

later we find the name of Dr. C. F. Hughes among those present at the organization of the present Illinois State Medical Society, at the same place in 1850, with which latter society he remained a member for at least four years afterward.

Of other early medical societies, the Rock River Valley was organized at Rockford, March 17, 1846, while the Æsculapian of the Wabash Valley was constituted at Lawrenceville the same year. The former, however, included within its district a portion of the then Territory of Wisconsin, and the latter a part of the State of Indiana. Morgan County possessed an early, short-lived medical society in 1846. For a short time a society existed in Peoria County in 1847, but the present Peoria Medical Society dates its origin from a year later. Likewise during the same year



DAVID W. LAMME, M.D.

Born December 24, 1840; died March 31, 1882.

of 1847 an organization had been instituted at Ottawa, known as the "Medical Society of LaSalle and Adjoining Counties." It, too, soon subsided, but, like the early one of Peoria County, only to be promptly followed by another, showing at least that the spirit of organization had not wholly died out.

If there had ever been heretofore a dearth in medical society interest, a time had now come when a great revivifying influence was about to be felt, which doubtless had already been manifested to some extent in the organization of the last four societies named, and an inspiring movement made toward the development of such associations of the profession throughout the whole country. This influence was the advocacy of a national medical organization for all the states, and the discussion thereby provoked through the medical press of the land relative to the

possible advantages of such a society, as well as of the subject of medical organization in general. Such issue had been previously sprung into being at the annual meeting of the New York State Medical Society of Feb. 6, 1845, at which time that body had passed a resolution earnestly recommending that a national medical convention should be convened in the City of New York during the following year. As a consequence of the resulting agitation of the project, an organization of the character proposed was finally successfully consummated in 1847 as the American Medical Association.

Illinois, fortunately, did not escape such influence, and it may be noted that the local societies already mentioned, save the first named, were organized during such period of general discussion, which likewise



ALBERT REYNOLDS, JR., M.D.
Born, 1827; died, December 1, 1882.

proved a further stimulus in the institution later of numerous other local societies throughout this state, and eventually to the formation of the Illinois State Medical Society in 1850 at Springfield.

MEDICAL ORGANIZATION IN THE SECOND COUNCILOR DISTRICT.

Passing over the interesting history of such State Medical Society's organization on June 4, 1850, and without here taking note of the numerous and often important local societies that soon afterward sprang up in many portions of the state, it is our purpose to now consider more particularly that part of Illinois included within the ten counties of Woodford, Marshall, Putnam, LaSalle, Bureau, Whiteside, Lee, Kendall, Grundy and Livingston. These counties at the present time constitute the second councilor district of the State Medical Society and are nearly

co-existent with the territory heretofore occupied by the North Central Illinois Medical Association for much more than a quarter of a century. Of medical associations within this territory, it may be related that the members of the profession of Woodford County in an early day were more or less associated with and doubtless several were members of the "Peoria District Medical Society," while of the society first organized in LaSalle County in 1847, before alluded to, of which Dr. Joseph Stout of Ottawa, now deceased, was secretary and who later became a member of this association, little evidence has been left of more than a brief existence. However, such local society was soon followed by the Ottawa Medico-Chirurgical Association, organized Jan. 1, 1849. Of this society Dr. Stout was likewise made a member. It was in this last association



ENOCH BLANCHARD, M.D.

Born July 4, 1830; died March 11, 1887.

and during the first year of its existence that the seed was germinated which subsequently resulted in the organization of the Illinois State Medical Society fifty-six years since. Its own entity as a society, however, soon afterward terminated. Two other, possibly at times, co-existing societies soon succeeded it, viz.: the LaSalle County Medical Society, instituted at Ottawa on July 29, 1853, and the Ottawa City Medical Society, which had a variable continuance for many years, but now for some time suspended. The county organization, following several years of effort, entered upon a dormant state of seventeen years' duration, after which with a quorum of its original members present it was revived on May 12, 1885, to a new and useful existence, and it has now become the largest county medical society within this councilor district.

The Fox River Medical Association, a society of many years' activity,

located to the northward and outside of this district as now constituted, early and for several years afforded association privileges to a number of the physicians of Kendall County. Whiteside County first organized a society on July 22, 1851, but this could have had only a brief history. Other of the larger counties, as Lee and Bureau, may have also organized and thus have possessed early societies, but, if true, no records of them are at hand. Indeed, it may be readily shown that the Rock River Society, previously mentioned, possessed in the past the names of several of the medical profession of each of these two and even more counties of this territory among those of its own membership, thus early supplying opportunity for professional association prior to the organization later of local medical societies within such counties.



KENDALL E. RICH, M.D.

Born August 28, 1824, died September 28, 1890.

The one organization of the olden time which appears, more than any other, to have occupied in advance much of the territory of this association was the "Medical Society of the Upper Illinois" instituted at Lacon, July 3, 1850, a month subsequent to the formation of the State Medical Society and whose territory was to comprise "Marshall, Bureau, Stark, Putnam and adjoining counties," and was to have been "auxiliary to the State Medical Society." It may be of interest to here note that, to be auxiliary to the American Medical Association or to the State Medical Society, or to both, was a condition quite frequently adopted by local medical societies of forty to sixty years since.

The officers of the Upper Illinois Society as then chosen were as follows: President, Albert Reynolds, Sr., Magnolia, Putnam County; vice-president, Robert Boal, Lacon, Marshall County; secretary, S. Allen

Paddock, Princeton, Bureau County; treasurer, U. P. Golliday, Lacon, Marshall County; censors, Thomas Hall, Toulon, Stark County; William O. Chamberlain, Princeton, Bureau County, and L. G. Thompson, Lacon, Marshall County.

These officials later proved to have constituted an able and distinguished group of country physicians, and nearly all of them ever continued to be industrious and vigorous workers for the promotion of professional interests and organization, although this particular society was not long in active operation. Drs. Boal, Paddock and Thompson were of the sixteen physicians present at the formation of the Illinois State Medical Society at Springfield. Dr. Boal, although not the chairman-elect on that occasion, presided in the committee of the whole, in which



ANTHONY H. KINNEAR, M.D.

Born March 9, 1841; died May 25, 1892.

most of the business of the preliminary convention was transacted, and in 1882 was president of the state society. He was, during his later years, also an honorary member of this association. Dr. Paddock was one of the two permanent secretaries of the state society chosen for the first meeting of 1850, he having been present as a member of the Rock River Valley Medical Society. Dr. Paddock and Dr. Thompson each served on the first nominating committee on the same occasion, while the latter was the state society's first vice-president in 1883. Dr. Thompson was also one of the founders of this association and its president in 1879. On his death, in 1903, he finally proved to have been the last survivor of the members of the State Medical Society who assembled at Springfield in 1850.

Drs. Hall and Chamberlain united with the state society in 1851, and

the former was later chosen first vice-president for 1852. In the absence of the president, he also presided at the opening of the session in 1853. His son, Dr. Walter T. Hall of Toulon, and grandson, Dr. Charles W. Hall of Kewanee, have long been, and are still, active members of the same society.

Dr. Golliday, who was a long time professional partner of Dr. Boal, united with the state society in 1852, although he had been earlier named as a delegate from the Rock River Valley Medical Society in 1850, but had failed to attend at that time.

Dr. Reynolds, Sr., the president of the Upper Illinois Medical Society, was one of the pioneer physicians of that very early settlement at Magnolia in Putnam County. He had graduated with honors from the



JAMES S. WHITMIRE, M.D.

Born December 13, 1821; July 15, 1897.

Medical College of Ohio in 1834, and had emigrated westward soon after the Black Hawk War to practice his profession. He was a very capable man and physician and the father of Albert Reynolds, Jr., later to be mentioned as one of the founders of this association. After many years of active and arduous practice, Dr. Reynolds retired from further professional work and engaged in mercantile pursuits at Lostant, Ill., where he died some years since. The entire number have since passed to their reward, but they have left an example of fidelity to their professional duties and obligations which should not soon be forgotten.

As the War of the Revolution in its day caused to be diverted into other and temporarily more urgent channels of effort the energies of a considerable part of the medical profession of our country, to the neglect and suspension of interest in existing medical organizations, so the

advent of the great Civil War produced similar conditions, the result of like causes, and hence very many of the local medical societies of the state suspended active work for a season at least, or permanently terminated their existence as individual organizations. Even the State Medical Society held no meetings during the years of 1861 and 1862. Soon after the close of this war, interest in professional enterprises grew apace and resulted in the revival of many formerly dormant local medical societies, or the organization of new ones, either where others had heretofore existed or within new fields previously unoccupied. Such changes likewise occurred in this locality, now the territory of the Second Councilor District.



ISAAC H. REEDER, M.D.

Born July 27, 1824; died October 21, 1898.

ORIGIN OF THE NORTH CENTRAL ILLINOIS MEDICAL ASSOCIATION.

In the spring or early summer of 1870, on a call issued to the profession of Woodford County by the late Dr. James S. Whitmire of Metamora to meet at his office for the purpose of perfecting a county medical organization, there assembled, probably in the month of May (the records have now disappeared) at least Drs. J. S. Whitmire and A. H. Kinnear of Metamora, S. L. Kerr, J. Q. Adams and Frederick Cole of El Paso, J. G. Zeller of Spring Bay, and P. L. Tribbey of Seer, all of whom have since passed away, save the last named, who is still a resident of the same town and county in this district as of yore. Dr. Whitmire was chosen president and Dr. Cole secretary, and to these two capable physicians, perhaps more than to any others, the medical profession of this part of the state and of this association owe much for their thorough zeal and the united efforts by which their professional associates were stimulated

to good works and a revival of interest in medical organization, likewise for the eventual formation of this association, as well as for its encouragement to a final success. A code of regulations requiring evidence of the possession of a medical degree as a prerequisite for admission was adopted, and the society adjourned to meet at El Paso during the following October and there to complete the details of its permanent organization.

As this county society progressed, its semi-annual meetings awakened a renewed interest among the physicians throughout its locality. The county newspapers opened their columns to its proceedings and several undergraduates who were practicing medicine, as was then permitted, attended lectures, received degrees and later became active members of



EDGAR P. COOK, M.D.

Born May 2, 1833; died October 31, 1902.

the society. Physicians outside the county soon sought admission, among whom were our late and lamented member, Dr. E. P. Cook, Sr., also the writer, there then being no other accessible local society within La Salle County or its vicinity with which it was possible to become affiliated. Several of the physicians of Marshall County likewise united, with the result, later, that the profession of such county completed an organization of its own at Lacon on Nov. 20, 1872. Interchangeable joint meetings of the two county societies soon followed, and after several successful occasions of this kind it was decided to form a larger or district organization embracing even more territory than that of the two counties of Woodford and Marshall. This scheme in its completion developed the North Central, now the North Central Illinois, Medical Association.

ITS ORGANIZATION.

"At the close of a joint session of the Woodford and Marshall County Medical Associations," says the record, "held at Wenona, Ill., Jan. 6, 1874, the members of the two associations and physicians from other counties convened for the purpose of forming an association of counties along the line and adjacent to the Illinois Central Railroad." Dr. D. W. Lamme of El Paso was made chairman, and Dr. F. Cole of the same place secretary. It was then unanimously agreed to form such society from Woodford, Marshall, Putnam, Livingston, LaSalle and adjoining counties. (The other counties were soon afterward added.) With slight alterations, the constitution and by-laws of the Woodford County Medical Society were adopted, and the following were elected officers for the



LUCIUS G. THOMPSON, M.D.

Born October 8, 1821; died October 30, 1903.

ensuing year: President, Dr. James S. Whitmire, Metamora; vice-president, Dr. Kendall E. Rich, Wenona; secretary and treasurer, Dr. Frederick Cole, El Paso.

The meeting was adjourned to again assemble at Wenona on December 1 of the same year. The name given to the organization was suggested by Dr. Cole, and the first code of laws adopted was practically his suggestion also. There were entered at Wenona, as those of the organizers of the association, the names of fifteen physicians from three separate counties, viz.: Woodford 8, Marshall 5, and LaSalle 2, all of whom we are quite confident were individually present. Two only were younger than the writer in age and but one in date of graduation. Although not then enrolled in such order, the fifteen by counties were as follows:

James S. Whitmire, Metamora, Woodford County.
 Anthony H. Kinnear, Metamora, Woodford County.
 David W. Lamme, El Paso, Woodford County.
 Frederick Cole, El Paso, Woodford County.
 Albert Reynolds, Jr., El Paso, Woodford County.
 Enoch Blanchard, Minonk, Woodford County.
 Edward A. Wilcox, Minonk, Woodford County.
 Garrett A. Newkirk, Low Point, Woodford County.
 Lucius G. Thompson, Lacon, Marshall County.
 Isaac H. Reeder, Lacon, Marshall County.
 George F. Roberts, Lacon, Marshall County.
 Kendall E. Rich, Wenona, Marshall County.



FREDERICK COLE, M.D.

Born March 30, 1829; died, October 1, 1905.

William L. Downey, Wenona, Marshall County.
 E. P. Cook, Sr., Mendota, LaSalle County.
 William O. Ensign, Rutland, LaSalle County.

This roll included seven surgeons of the late Civil War, one of whom, while a medical student, had also served as an enlisted soldier and as a hospital steward during the war with Mexico. Two of the others had served in the ranks of the Civil War prior to having taken a course in medicine.

Thus far it has been sought to indicate in abstract merely some of the steps and historical connections leading up to medical organization within our state and locality as it existed before the formation of this association in 1874. Organization in any occupation, profession, trade or calling is to-day a fully recognized principle of importance and value, and

here needs no words of commendation from us. Of its objects and advantages to the medical profession, however, Dr. John Evans, an early medical teacher and editor of Chicago, the founder of the City of Evanston, later an ex-governor and ex-senator of Colorado, thus wrote more than a half-century since: "Mutual acquaintance, the promotion of harmony and concert of action, fostering friendly feeling and good fellowship, mutual improvement by interchange of sentiment and organization for the promotion of the common interests of the profession may be objects of little importance to some, but we are sure that a large portion of the intelligent members of the profession of Illinois love their calling and its high benevolent aims too well to lightly regard or neglect them."

Well nigh three score years have now elapsed since the formation of



EDWARD A. WILCOX, M.D.

Born September 8, 1830.

the American Medical Association, in 1847, which gave an immediate and effective impetus to the development of united professional effort in the creation of many new medical societies, and nearly the same interval since the foregoing thoughts were penned, thus giving a long period for an experience on which to form some practical conclusions on the question of the utility and advantage of associated energies in the work of bettering the profession. We can now see that continued progress has been made and that a great system of organization is being built up over the entire country, beginning with the county society as the basic unit of construction, as long since introduced in part at least by New York State, and which may be expected eventually to extend up to that largest of great medical bodies, the American Medical Association. This, as a

method, is sometimes denominated the "standard plan." Of this, time will not here permit of further consideration.

Of what may be accomplished by means of the medical society, Dr. W. Osler has not very long since said: "The well-conducted medical society should represent a clearing-house, in which every physician of the district would receive his intelligent rating and in which he could find out his professional assets and liabilities. We doctors do not 'take stock' often enough and are very apt to carry on our shelves stale and out-of-date goods. The society helps to keep a man up to the times and enables him to refurnish his mental shop with the latest wares. Rightfully used, it may be a touchstone to which he can bring his experiences to the test and save him from falling into the rut of a few sequences. It keeps his



WILLIAM L. DOWNEY, M.D.

Born December 3, 1837.



mind open and receptive and counteracts that tendency to premature senility which is apt to overtake a man who lives in a routine." Certainly medical organization and membership are not without important advantages to every physician who holds the interests and usefulness of his profession to be above mere private gain and who will endeavor to avail himself of all his opportunities.

"For the promotion of professional and social comity among practitioners of truly scientific medicine, for the benefit of mutual experience for obtaining further individual light to the end that a higher degree of usefulness to the public may be attained, and for cultivating and advancing a knowledge of the medical sciences and the honor of the medical profession" this association was duly organized, and it has ever sought to

afford such advantages to the physicians of its locality who might desire to profit by them.

THE ASSOCIATION'S FOUNDERS.

Did time permit, it could have been greatly desired to have placed on record in this connection an extended biographical notice of each of the individual physicians with whom it was both a pleasure and an honor to have been associated, a third of a century since, in perfecting the organization of this association. However, but very brief sketches, incompletely covering little more than their medical relations will here be undertaken. In their presentation the deceased will be first mentioned in the order of their demise and, lastly, the living, with perhaps a single



GARRETT NEWKIRK, M.D.

Born May 3, 1847.

exception, in the order of their ages, while the residence of each will be given as it existed in 1874.

THE DECEASED.

DAVID W. LAMME, M.D.

Dr. Lamme was born in Ohio on Dec. 24, 1840, attended the common schools of the locality, and later entered upon the study of medicine in his native village, graduating from the Medical College of Ohio at Cincinnati in 1867. He removed to Eureka, Ill., in 1868, where he remained until 1870, when he located at El Paso. While at the latter place he became a member of the Woodford County Medical Society in 1873, and the following year aided in the organization of this association, on which occasion he was chosen chairman of the preliminary meeting. He was ever afterward an active and enthusiastic member of both societies, cheerfully and faithfully discharging every duty assigned to him. He had,

early in his medical career, visited many of the hospitals of England and Scotland and had there observed much of professional interest, including an operation by Dr. Joseph Lister, performed under his then newly devised aseptic method, which has since revolutionized the whole surgical world and broadened the field of operative venture and success. Returning to El Paso he there practiced his profession until 1877, when he experienced a physical decline, for which he removed to Dakota, then a single territory, where he finally succumbed to pulmonary tuberculosis on March 31, 1882, aged 44 years.

Dr. Lamme was a pleasant Christian gentleman in all his relations with mankind. It has been well said of him that "he was thoroughly educated in his profession, which he loved and in which he was a success-



GEORGE F. ROBERTS, M.D.

Born March 25, 1848.

ful practitioner." He was full of good common sense, associated with a sympathetic love of humanity. He believed and acted upon that sentiment which counted that day lost in which no good or worthy action had been performed.

•ALBERT REYNOLDS, JR., M.D.

A son of Dr. Albert Reynolds, Sr., to whom we have previously alluded as the president of the Upper Illinois Medical Society in 1850, he was born in Ohio in 1827, and received his preliminary education in the common schools and at the college at Walnut Hills, near Cincinnati, in that state. From this institution he graduated with the degree of A.B., it is said, at the early age of 18 years. Soon afterward he journeyed westward to Magnolia, Ill., where he entered the office of his father as a medical student. Later he attended his first lectures at the Medical Department of Jacksonville College, but finally completed his course at

Rush Medical College in 1848. Remaining associated in practice with his father until 1850, he then located at Bowling Green, and still later at Kappa, Woodford County, the latter a station on the then newly constructed Illinois Central Railroad. In 1869 he made a disastrous financial venture in attempting to take valuable live stock overland to Nebraska, only succeeding in reaching Adams County, Iowa. Here he bravely hung out his professional shingle and contracted with its publishers to edit the *Corning Gazette*, being later employed in a similar capacity on the *Western Iowa Journal*. In 1871 he returned to Illinois, locating at El Paso in the practice of his profession, which vocation he followed until his death, Dec. 1, 1882.

He was an early and active member of the Woodford County Medical



WILLIAM O. ENSIGN, M.D.

Born June 26, 1841.

Society, and was president of this association in 1877. Dr. Reynolds was one of the pioneer physicians of this section of Illinois, and could detail his early and trying experiences as such in a most entertaining manner. In his youth he was of a light-hearted and jovial disposition, yet profound of thought. Bubbling over with ready wit and pointed sallies and open in his generosity, he made himself, as a student and an associate, a general favorite among his fellows. A generous friend and an open adversary, he was endeared to all who knew him. As a physician he never neglected an opportunity to minister to the poor when in distress and to alleviate their sufferings to the extent of his ability.

Liberal yet decided in his religious views, he was ever considerate of the opinions of others. In short, he was an excellent example of a big-hearted, generous, always cheerful and an unusually well-educated pio-

neer physieian. He presented many praetieal papers before this assoeiation while living, and all so punctuated by his unrestrainable wit and humor as to always elieit the undivided attention of his auditors and to provoke their hearty interest, as well as their desire for further opportunities to listen to his contributions to the exereises of the assoeiation.

ENOCH BLANCHARD, M.D.

This very eapable physieian and surgeon was born at Peacham, Vt., on the 4th day of July, 1830, and as a eoineident of like patriotie stamp to that of the day of his birth was the faet that through his mother's ancestral line he was a great grandson of the historical characters, General and Molly Stark. He was thoroughly eduuated, having received the elassieal degree of A.M. and the medical degree of M.D. from Dartmouth College, the former in 1855 and the latter in 1857. Entering the U. S. service during the Civil War as an assistant surgeon of the Seventh Vermont Infantry, he was the same year promoted to the position of its chief surgeon. With his regiment he saw most severe and exhaustive serviee, the command to which he belonged having been immediately transferred from the cooler elimate of Vermont to the hot sands of Ship Island and the Gulf coast, with the result that many of the men, including the Doetor, were generally shattered in health.

Although still feeble on his return at the elose of his serviee, he attended a course of elinieal lectures at New York City in the winter of 1865-6, following which he loated at Lacon, Ill., where he praetieed his profession until 1871. He then removed to Minonk, where he formed a partnership with Dr. Edward A. Wileox, which was continued for six or seven years. He died suddenly Mareh 11, 1887, while on his professional rounds in the eountry, at the age of 59 years.

Dr. Blanchard was a man of seholarly attainments, who stood for professional progress and advancement, as well as a high standard of qualifications for the praetiee of medieine. He was himself a keen, incisive and able writer, quiek in his pereptions and onelusions and prompt to exeecute the latter. He was ever interested in and eareful of the welfare of this assoeiation, over which he had presided in 1881.

KENDALL E. RICH, M.D.

Dr. Rich was born at Norwich, Franklin County, Mass., Aug. 28, 1824. His early education was obtained in the common school, supplemented by a course of study at the academy then loated at Winchester, N. H., during which latter attendance he paid his own expenses by alternately teaching school and attending instruction. At 19 years of age he set out for himself, going westward to Mt. Clemens, Mich., where by clerking and teaching he was enabled to replenish his purse. He then pushed on via Chicago, Galena and down the Mississippi River, then a very eommon route to that part of the eountry, to Adams County, Illinois. Here he again taught school until he entered as a medical student the office of his unele, Dr. George O. Pond, of Columbus, in that county. War having been deelaared between the United States and Mexico, he enlisted as a private in Company K, First U. S. Dragoons, then under the command, as he has elaimed, of Col. Joseph E. Johnston, later of confederate fame.

While in Mexico in 1847, he was made a hospital steward and thenceforward served in hospitals as such to the close of the war, first at Vera Cruz, Mexico, and later at New Orleans, United States. While serving at Vera Cruz, he was frequently brought in contact with yellow fever, and was present and assisted in the first administration of chloroform in the U. S. Army. The experiment, although discountenanced by the surgeon in charge, was nevertheless undertaken, that anesthetic successfully administered and a reamputation of the leg performed by Surgeon Wylie of Maine. The patient was W. W. Williamson of the First U. S. Dragoons and a resident of Lacon, Ill., who finally recovered and subsequently returned to his home, although now long since deceased.

Returning from the war to Adams County, young Rich resumed his medical studies, and in 1850 graduated from the Medical Department of the Missouri University. After a few months spent at Columbus, he removed to Magnolia, Ill., then an important place between Ottawa and Peoria. Here he practiced about eleven years, when he removed his family to Henry and himself entered, in 1862, the Seventy-third Illinois Infantry as an assistant surgeon, his uncle, Dr. Pond, being its chief surgeon. After much service, owing to continued illness and consequent physical disability, he resigned in 1863 and returned to Illinois. Having first recuperated his health, he located at Wenona, where he remained until his death, Sept. 28, 1890, at the age of 66 years.

As a man, his convictions were always clear, firm and unmistakable. He ever possessed an abiding interest in his chosen profession and a high regard for the straightforward, candid practitioner, who, devoid of subterfuge or double dealing, pressed forward to success by honorable methods. He never shrank from his own share of professional responsibility, or sought to cast upon others that which he realized belonged to himself, no matter what might be the possible consequences or how great the odium under which he might eventually rest. He loved the genuine and hated the counterfeit. His friendships were strong and enduring and not likely to be easily disturbed. His heart was ever with his profession and with this association which he had helped to build up and over which he had presided in 1878.

ANTHONY H. KINNEAR, M.D.

At one time Dr. Kinnear was a student of Dr. Whitmire's and later a practitioner of the same place, also a preceptor to Dr. Roberts, of whom mention will be made later. He was born in Ohio, March 9, 1841, reared on a farm, and when the lad was 15 years of age the family removed to near Eureka, Ill. He attended the common schools both in Ohio and in Illinois and at 18 entered upon a two years' course of study at Eureka College, on the completion of which he began a pupilage in medicine under Dr. Conover, then of Eureka. Having attended a course of lectures at Jefferson Medical College of Philadelphia, Pa., in the winter of 1860-61, he resumed his studies with his preceptor until September, 1862, when he joined Surgeon J. S. Whitmire of the Fifty-sixth Illinois Infantry as an assistant and private secretary, and was with that surgeon at the time of the memorable battle of Corinth, Miss., Oct. 3 and 4, 1862.

Subsequently he left the army and became a pupil of Drs. J. S. and Z. H. Whitmire of Metamora, finally graduating at Rush Medical College with the class of 1864. He was then commissioned as an assistant surgeon of the One Hundred and Eighth Illinois Infantry, of which regiment Dr. Conover, his first preceptor, was the chief surgeon, and wherein he served until the close of such regiment's service in 1865. Locating at Metamora, he there remained in practice for nineteen years, when he removed to Henry, at which place he resided at the time of his death, in 1892.

He was one of the founders of the Woodford County Medical Society, in 1870, and of this association, in 1874, of which latter he was president in 1882. He was likewise a member of the Illinois State Medical Society and the American Medical Association, as were at some time very many of the other founders of this organization.

An affable and socially inclined person, an accommodating friend, a genial companion, he was also an active and efficient member of the various medical and fraternal societies to which he belonged. He was suddenly cut down, at 51 years of age, while yet in the prime of his life and public usefulness.

JAMES S. WHITMIRE, M.D.

Born in Ohio, Dec. 13, 1821, he received a common school education, learned his father's trade of tanner and currier and that of shoemaker. He came to Illinois in 1840, where he taught school, and in 1843 entered the office of Dr. J. B. Kyle, then of Macomb. He graduated from the Medical Department of Jacksonville College in 1847, and in 1850 received the first *ad eundem* degree ever conferred by Rush Medical College. In 1856 he further received a degree from Jefferson Medical College of Philadelphia. He had located at Metamora soon after his graduation in 1847, and here he ever afterward continued to reside and practice his profession until his death. Beside him also lived and practiced a brother, Dr. Z. H. Whitmire, and of his own family three sons followed the avocation of the father, viz.: J. Wallace, a present life member of this association and now a resident of Forrest, Ill; C. Leonard, formerly a member from Sublette, who later removed to Waverly, Iowa, where he died Sept. 9, 1895, and Z. H. Whitmire, second, who died at Urbana a few years since.

Dr. Whitmire entered the Civil War as an assistant surgeon of the Sixth Illinois Cavalry and was soon promoted to surgeon of the Fifty-sixth Illinois Infantry, from which he resigned in 1863. He united with the State Medical Society in 1851, and was its first vice-president in 1879. He was a founder of the Woodford County Medical Society and its president in 1870, also a founder of this association and its first permanent president in 1874. His contributions to medicine and to general science were numerous and able, and his original and important investigations included many of no little value to the medical profession.

As a man, "a combination of energy, abruptness and generosity" was said of him by his long-time friend, Dr. Boal. "As a citizen, public spirited, a genial gentleman and a fine conversationalist" and always "observant of the amenities of his profession." He served his chosen calling with great zeal and ability for fifty-four years, and finally passed

away at his home in Metamora on July 15, 1897, at the age of 76 years.

ISAAC H. REEDER, M.D.

Ohio was the state of birth of seven of the fifteen founders of this association, and among such number was Dr. Reeder, born July 27, 1824. With his parents he removed to Illinois and located on land adjoining the City of Lacon. He apprenticed himself to a firm of blacksmiths in that city for three years in order to thoroughly learn the trade, but he never entirely completed such service, his mind in the meantime having been led to the study of medicine. In 1847 he attended one course of lectures, after which he practiced a few months at Lexington, then at Pleasant Hill, Ill., for two years. He then completed his course in medicine, graduating from Rush Medical College in 1852. Later he removed to Lacon and formed a partnership with his relative, Dr. Boal, which continued for about six years. He then located at Wenona, from which place he entered the U. S. Service as first assistant surgeon of the Tenth Illinois Infantry in 1862. In this capacity he served about two years, resigning in 1864, when he once more returned to Lacon, where he ever afterward continued to reside until his death took place, Oct. 21, 1898. While at Lacon he fully proved himself to be one of the most skillful and best known surgeons in his own part of the state. He was a member of the Marshall County Society and likewise of this association, of which latter he was president in 1876, and was constituted a life member in 1898, the year of his demise.

Dr. Reeder was highly esteemed as a citizen, and his skill as a surgeon was in continuous demand in the locality wherein he resided. His heart and hand were ever ready to relieve suffering humanity, and his self-sacrificing labors in his profession were daily manifested during his long career of many years' practice. He was patriotic, public spirited and generous to a fault. Always courteous and obliging to his fellows, he ever stood for honest, intelligent and upright conduct in all. A mild-mannered and unostentatious man, he was well known as a fair and honorable counselor and friend. A noble citizen, a sympathetic surgeon, he left a host of those whom he had skillfully served, and the entire medical profession around him to mourn his loss.

EDGAR COOK, M.D.

Dr. Cook was born in that portion of "Old" Virginia now included in West Virginia, May 2, 1833, being the eldest son of Dr. Wm. J. Cook, of Wellsburg, in that state, who was a graduate of the Medical Department of the University of Maryland at Baltimore, in 1826. Owing to the abhorrence entertained especially by the mother, who was the daughter of a slave holder, toward the institution of slavery, the family removed to Ohio in 1836, first to Guernsey County, later to Freeport, Jefferson County, and still later to East Springfield, in the latter county. The son obtained his preliminary education in the common schools and the Jefferson Academy. He entered the Cleveland Medical College, now the Medical Department of the Western Reserve University, at Cleveland, Ohio, at the early age of 18 years, engaging in school teaching during the intervals between courses of medical lectures. He graduated as the youngest of the class of 1854, not having quite reached his majority.

Soon after graduation he became a resident practitioner of Mendota, Ill., where he ever afterward remained throughout a long and busy life. Two sons, Charles E. and Edgar P. Cook, Jr., have followed in the professional footsteps of the father, and both have since continued residents of the same place. Each has likewise become a member of this association, the latter having been chosen its president for 1907. Two other sons, the one a student of medicine and the other of dentistry, had passed away while preparing themselves or when nearly ready to take up the duties of their chosen professions.

Dr. Cook was appointed a state surgeon of Illinois in the Civil War, but was never sent to the front except on a single brief occasion, his assignments usually being among the sick and wounded nearer home. During forty-eight years of an active practice of his profession he was ever energetic and progressive, always taking a deep interest in its advancement and welfare. There being no medical society in his own county of La Salle for many years, he early united with the society of Woodford County, as heretofore mentioned, and it was within such society that the writer first met him in the early seventies. He likewise became a member of the State Medical Society and presented the report of the Committee on Practical Medicine as its chairman in 1875. He was that society's vice-president in 1878 and its president the following year. He frequently served on important committees and as a delegate to the American Medical Association. He was a long time member of the Judicial Council of the state society and was the chairman of such council at the date of his death, having met with its members in Chicago but a very short time prior to his sudden demise on Oct. 31, 1902. He was a member and an ex-president of the Army and Navy Medical Association, a member of the International Association of Railway Surgeons, a member of the American Medical Association and one of its delegates to the Ninth International Medical Congress at Washington, D. C., and again in 1890 to the Tenth Medical Congress at Berlin, Germany. He was president of this association in 1875 and again on the occasion of its quarter centennial anniversary in 1898. With the writer he united in being instrumental in the revival of the long dormant La Salle County Medical Society in 1885, and afterward he at one time presided over that body as its duly elected president. He was a member of the American Public Health Association and an honorary member of the Physicians' Club of Chicago. A long time local surgeon at Mendota of the Illinois Central and Burlington Railway systems, he was likewise at one time a member of the Illinois State Board of Health, having been appointed, without his own solicitation, by a Governor of opposite political sentiments. He was accredited with having performed the first favorably resulting operation of laryngotomy for tumor done in the west, also one among the first successful operations for ectopic gestation done in this country.

A moral, intelligent and public-spirited citizen, a devoted church-worker, a capable practitioner of medicine, a skillful surgeon, he was always among the foremost of his profession. Constantly alert in the discharge of every duty, he was actuated in all things by the conscientious

and exalted impulses of a sincere moral nature and an honest upright manhood, seeking only the highest welfare of his fellow-men.

LUCIUS G. THOMPSON, M.D.

Five of the six New England States supplied the birthplace of one each of those who organized this Association, and one of these was Dr. Thompson, who was born in Connecticut, Oct. 8, 1821. When but 2 years of age the family moved to Penfield, near Rochester, N. Y. In 1836 they again journeyed westward, first to Saybrook, and not long afterward to Kirtland, Ohio. Here his early common school education was supplemented by an attendance at the Western Reserve Teacher's Seminary, located near his home. Following this he taught school, studied medicine and graduated at Starling Medical College at Columbus, Ohio, in 1849. Not long afterward he removed to Crow Meadow and later to Lacon, Ill., at which latter place he continued to reside and practice medicine for nearly fifty-four years, or until the close of his long and useful life. He was for most of this period the colleague and neighbor of the late Dr. Robert Boal, with whom he made the ever-memorable trip in an open buggy to Springfield in 1850 to assist in the organization of the Illinois State Medical Society. He was, as previously stated, the last survivor of the sixteen physicians who were in attendance on that important occasion, his death having been preceded but a few months only by that of Dr. Boal of the same place. He passed away at his home in Lacon on Oct. 30, 1903, at the ripe old age of four score and two years. He was one of the founders in 1850, as before mentioned, of the Upper Illinois Medical Society and later of the Marshall County Medical Society and of the North Central Illinois Medical Association; of the last he was made a life member in 1898. He was first vice-president of the Illinois State Medical Society in 1883 and president of this association in 1879. Had his life been prolonged another year he would, by a custom of this organization, have become eligible at the end of a twenty-five years' interval to have again presided in 1904, in anticipation of which he had already been chosen its first vice-president and was such at the date of his death.

Dr. Thompson as a physician was a considerate, careful and safe counselor. Rarely actuated by impulse, he brought to every question a deliberate and matured judgment. As a man he was quiet and candid in demeanor, yet an always active and interested member of this society and his profession. His ever sturdy and steadfast character caused him to be tenacious of his convictions, yet he cheerfully recognized that which was meritorious in others and never refused to commend it. Of well-grounded religious principles, he always lent his encouragement toward every means of human betterment, in verification of which statements his whole life's labors were a continued confirmation.

FREDERICK COLE, M.D.

This able and efficient co-laborer with Dr. James S. Whitnire, in inspiring medical organization in this vicinity more than a third of a century since, was born at Cornish, Maine, March 30, 1829. He received an academic education, and at first engaged in school teaching in his native state for two years. Then removing first to Madison, Wis., for

six months, he later came to Illinois in 1852. Here he devoted about ten years more to teaching, both in Kendall and Winnebago Counties, completing such professional labors at Rockford. He then read medicine with Dr. James McArthur of that city and graduated at Rush Medical College in 1865, whereupon he at once entered the U. S. Service as second assistant surgeon of the One Hundred and Fifty-first Illinois Infantry, a regiment then on duty in Georgia. At the close of such service he was discharged with his regiment in 1866. On his return to Illinois he first located at Annawan, but later going to El Paso in 1867, where he remained for many years or until he removed to Kansas in 1886. In 1870 he received an *ad eundem* degree from Bellevue Hospital Medical College of New York City.

As a successful physician and surgeon, Dr. Cole stood among the foremost in his locality. He with others was instrumental in organizing Woodford County Medical Society, as has been previously shown, in 1870 and this association in 1874. Of the former he was its efficient secretary up to his removal from the state, a continuous period of about sixteen years, and of the latter for thirteen years from its formation, save one, 1884, when he was its president. A member of the Illinois State Medical Society and the American Medical Association, he was ever a constant attendant and interested participant in the exercises of medical organizations. To him should be given great credit for the most unceasing labors performed in behalf of this association and its success. With the combined efforts of himself and his intimate co-laborer, Dr. Whitmire, it might be reasonably concluded that there could have been no failure.

A highly respected citizen, always deeply interested in educational progress, he was likewise an advocate of all municipal improvements likely to benefit the interests or welfare of the community in which he resided. His professional practice was both extensive and lucrative and he early became interested in banks and banking. On his removal to Kansas he largely retired from a professional line of work save consultations, and became president of the Bank of Southwestern Kansas, at Garden City, which responsible position he held for many years. However, he never abated his interest in his old-time profession of medicine and was instrumental in the organization of the Southwestern Kansas Medical Association, of which he was the first president.

A ready thinker, an interesting writer and a constant student with a well-selected private library at his hand, he was at all times well informed and thoroughly qualified for the intelligent discharge of almost any duty that might fall to his hands to be performed. His death, which took place at his home in Kansas after a continued illness of several months, created a vacancy that it would be hard to fill in almost any community wherein he might have resided. His constitutes the last death to have occurred to date, as well as the tenth among the founders of this association.

Such, briefly described, were those whose life work has been completed, whose earthly careers have ended after many years of efficient endeavor and a faithful discharge of their duties to the public and their

profession. A band of noble men and conscientious physicians, not a professional laggard or a discreditable individual among them, they were industrious, humane, sympathetic, intelligent and progressive workers for the benefit of his fellow-men. Practitioners of long experience and much pioneer service, their duties were often performed under conditions of intense fatigue and personal exposure and sometimes even of danger to life itself. Who can compute the sum of human misery and suffering which they had relieved during their many years of service in the pioneer cabin as well as in the more pretentious home? They were, indeed, an honor to their profession, benefactors to mankind and enduring examples of faithfulness in the discharge of their duties to all those who may have come after them.

THE LIVING.

Turning to the five surviving members present at the organization of this association, with one exception, named in the order of their ages, they will be found to be as follows:

EDWARD A. WILCOX, M.D.

Dr. Wilcox, a son of Dr. Levi Wilcox, also an older brother of Dr. Levi S. Wilcox, who was formerly a member of this association and more recently, up to about a year since, U. S. Consul at Hankow, China, was born at Wattsburg, Pa., Sept. 8, 1830. The family removed to New Philadelphia, Ohio, in 1832, and from there to Lacon, Ill., in 1837, where the subject of this sketch grew to manhood, having attended the public schools of his home city and for a season at the academy at Mt. Morris, Ill. Owing to the previous death of his father, his medical studies were begun in the office of his uncle, Dr. R. B. Rodgers, then of Lacon. Later he entered the office of Dr. Robert Boal of the same place, with whom his father had formerly maintained a professional partnership. He graduated at Rush Medical College in 1857, practiced one year only at Lacon, and then moved to Minonk, where he still resides. He has successfully followed his profession until a few years since, when he effectually retired from its duties to enjoy a well-earned rest from active labor, leaving the field to a son. In addition to the father and a brother being physicians, four uncles, brothers of his mother, were such, while two of his own sons are now in the same profession, viz.: Dr. F. W. Wilcox, of Minonk, a member of this association, and Dr. F. T. Wilcox, of La Porte, Ind. A third son, Dr. A. R. Wilcox is a dentist of Minonk, a fourth son is now a dental student in Chicago, and a grandson is nearing the completion of a course in medicine at Rush Medical College.

Dr. Wilcox has served his locality long and efficiently, not only as a physician but in charge of public trusts as well. He has three times been elected mayor of his home city, has served three terms for his district at large on the State Central Committee of his own political party, and was a member of the State Senate from 1872 to 1876. The only physician in the Senate at that time, it was to him that the entire medical profession of the state turned, with no little anxiety, when it became apparent that an important "Bill to Promote the Science of Medicine and Surgery in the State of Illinois," which if enacted would grant the delivery of certain anatomical material from charitable and penal insti-

tutions of the state to its medical colleges and permit its lawful dissection for purposes of scientific study, was likely to be defeated in that body, and hence to fail of successful passage through the legislature. So closely defined and doubtful had been the issue that a majority of the Senate was known to be against the bill. It was mainly through the doctor's unrelenting efforts that success was at last secured by its passage, although by a bare majority. For his efficient labors in behalf of such law, an honorary degree was promptly conferred upon him by Rush Medical College in 1874.

Dr. Wilcox has for many years been a member of the Woodford County Medical Society and is now a life member of this association, and his seventy-six years of strenuous life seem still to rest lightly upon his shoulders.

WILLIAM L. DOWNEY, M.D.

Dr. Downey was born in Ohio, Dec. 3, 1837, and at 20 years of age came to Illinois, where he at first taught school, but in 1859 engaged for two years in farming throughout the open season, attending school at the Wenona Seminary during the winters of 1859-60 and 1860-61. The Civil War then coming on, he enlisted in August, 1861, in Company I, Eleventh Illinois Infantry under the late Col. G. L. Fort, of Lacon, as the company's captain, and Major John H. Widmer, now of Ottawa, as its first lieutenant. This regiment early in the war performed conspicuous service, and in the assault upon Fort Donelson, in February, 1862 young Downey was severely wounded in the hand, arm and neck. A large musket ball long remained in his arm, causing at times extensive sloughing of tissue, with the result that nearly six months after receiving such wounds and about one year after his enlistment, he was finally discharged from the service "on account of gunshot wounds received in battle." However, not all the enemy's missiles were removed, as he is still carrying confederate lead in his arm.

Soon after his return to Illinois he entered the office of Drs. Oder and Hamilton, then of Wenona, as a medical student. Taking his first medical lectures at the University of Michigan, at Ann Arbor, in the winter of 1863-4, he completed his course at Keokuk (Iowa) Medical College the following year. The first season after graduation he practiced with Dr. Oder, one of his preceptors at Wenona, and the following winter took an additional course of two months at Rush Medical College. He then located at Lostant, where he further practiced his profession for four years, when he again returned to Wenona and entered the retail drug trade, at which place he still resides, continuing in the last-named occupation to the present time.

Dr. Downey is a thoroughly patriotic and highly respected citizen and is always interested in whatever appertains to his early profession of medicine and its welfare. He is a member of the Marshall County Medical Society and a life member of this association since 1898, as well as a long-time member of the State Medical Society. In the past he has contributed several papers of interest to the proceedings of this association, and has always manifested a hearty sympathy with whatever goes toward the advancement of scientific medicine and surgery. A pleasant, genial and kind-hearted gentleman, who has been an honor

to his profession, he is one whom it is a privilege to know and esteem and in whose friendship none could feel aught but a just pride and a pleasurable gratification.

GARRETT NEWKIRK, M.D.

This physician was born at Leroy, Mich., May 3, 1847, and with his parents moved to Stark County, Ill., in 1854. He was a pioneer farmer's son and received a common school education, with much additional instruction from his parents, each of whom had previously followed the occupation of a teacher. He graduated from Rush Medical College in 1868, practiced medicine in Missouri for three years, then removed to Illinois and located first at Low Point for a short period and subsequently at Wenona. He followed the practice of medicine continuously up to 1878, during which period he aided in the organization of this association, of which he was some years later made an honorary member. While located at Wenona he studied and practiced dentistry, and in 1883 removed to Chicago, where he devoted his entire time to his new profession, rapidly rising to distinction in this field of effort. He was for several years instructor in hygiene and orthodontia in the College of Dental Surgery in that city, was president of the Central Illinois Dental Association in 1884-5, secretary of the Illinois State Dental Society for four years, president of the same society in 1893-4, and president of the Chicago Dental Club in 1899. He removed to California in 1890 and is now a resident of Pasadena in that state. He is a member of the National Dental Association, and up to a recent period has been dean of the College of Dentistry of the University of Southern California at Los Angeles since 1901.

Dr. Newkirk has contributed numerous papers on professional topics to the societies of each of the professions to which he belongs, but the field of literature has supplied no less an opening for his talent. Poems and stories written for such publications as the Round Table, Outlook, Bird Lore and St. Nicholas have been many and entertaining. He is the author of Rhymes of the States, a geography for boys and girls, issued by the Century Company. The doctor is a fine example of that genial, social and ennobling character which does much to make the world happier and better for its existence. He is still vigorous physically and mentally, and with his steadfast and orderly life and habits in the past, and his present robust manhood founded on a healthy constitution inherited from a Dutch ancestry on the one side and a Puritan stock on the other, he may reasonably be expected to accomplish much more of worth and excellence during the years that may yet remain in store for him.

GEORGE F. ROBERTS, M.D.

Dr. Roberts, the youngest in age of the founders of this association, was born at Barnstead, N. H., March 25, 1848. Having passed through the common schools, he was placed in an academy for more extended instruction. While pursuing his studies there in 1865, at the age of 17 years, he removed with his parents to Illinois. He first spent a year at Monmouth College, whence he later went to Chicago University. Here the climatic conditions were found to be unfavorable to his health, and under the advice of his physician he left the school and the city. Going

to Washington, Ill., he consulted the late Dr. Wilson of that place, in whose professional judgment he had long entertained much confidence, who fully approved the former advice given him by the Chicago physician, and further counseled him to consult Dr. A. H. Kinnear, of Metamora. This incidentally led him to a determination on his own part to undertake the study of medicine, which he subsequently pursued for a year under the pupilage of the latter physician. He then went to Chicago and became a student of the late Dr. Ephraim Ingals, then professor of materia medica in Rush Medical College. At the same time he became an inmate of the home and a member of the family of his preceptor, whom he ever afterward held in high esteem for his many enobling and praiseworthy traits of character.

After having taken but one winter and one summer course of lectures, although not yet a graduate in medicine, he was appointed second assistant surgeon at the U. S. Marine Hospital. The disastrous Chicago fire of 1871 soon followed and he then secured service at the St. Luke's Hospital for a brief period. Taking his final course of lectures, he graduated with the "fire class" of 1872. Returning to Metamora, he there remained but a short time, when he removed to Lacon. While located here he assisted in the formation of this association at Wenona in 1874. At Lacon was born his son, now Dr. Wm. B. Roberts, likewise a resident of Minneapolis, Minn.

In 1876 he removed from Lacon to Waterloo, Iowa, where he resided and practiced his profession for about six years. While here he was appointed a member of the first Iowa Board of Health and lectured at the Iowa State University. The winter of 1881-2 was spent in New York City, where he received an ad eundem degree from the New York Homeopathic College and Hospital. Following this he located in Chicago for two years. Here he lectured on gynecology, served as a surgeon to Cook County Hospital and acquired a comfortable practice. Again the climate proved to be too severe upon his health, and in 1884 he removed to Minneapolis, Minn., where he has ever since resided and where he has but recently retired from the chair of homeopathic professor of diseases of women in the University of Minnesota. He now holds no public positions save those of a member of the staff of Asbury (M. E.) Hospital and a member of the Minnesota Tuberculosis Commission.

Dr. Roberts' associations with the present active membership of this organization have been, by reason of circumstances and distance of residence in the past, of such brief and limited a nature that it is impossible to here speak of his distinguished personal characteristics, otherwise than to say that he is decidedly independent in his political, religious and professional views; and that his early and well-improved opportunities have evidently resulted in fitting him as a competent and able physician for filling numerous important and honorable positions such as ordinarily require the especial qualifications of intelligence and skill, both in the interest of the public weal as well as for a successful instructor in his profession.

From his active professional labors he has taken frequent vacations, during which he has spent considerable time in Europe and has traveled

over much of North America, the latest of which journeys he has just completed into Old Mexico. Had not circumstances prevented, he had hoped to have met with us on the present occasion, and this for the first time after an absence of thirty-one years. Although with a single exception the farthest removed from this locality of any of the founders now living, by reason of residence in a distant state, he still looks forward with much pleasure at the possibility of again being able to meet with the members of this association at some of its sessions in the near future.

WILLIAM O. ENSIGN, M.D.

A son of Dr. C. W. Ensign, of Madison, Ohio, and a brother of the late Dr. H. D. Ensign, of Boone, Iowa, he was born in the former state on June 26, 1841; attended the common and high schools, Grand River Institute and Madison Seminary, taught school, enlisted in the Civil War as a member of the artillery branch of the service, served out an enlistment of three years, removed to Illinois; again taught school, entered the office of the late Dr. Henry A. Almy, then of Rutland, as a medical student, later the office of Dr. Collin Mackenzie, and still later that of Drs. G. E. C. Weber and D. B. Smith, of Cleveland; attended lectures at the Charity Hospital Medical College, now the College of Physicians and Surgeons of that city, of which school the last-named three physicians were then members of its faculty, graduated with the class of 1869, and returned to Rutland, Ill., where he has since continued to reside and practice his profession. He now holds two *ad eundem* diplomas from separate medical schools; is an ex-president of the Woodford County, likewise of the La Salle County, Medical Societies; was one of the founders of this association, of which he was for fourteen years secretary, has attended thirty-three of its thirty-four annual meetings, has been twice its president and is now a life member since 1898. He has for thirty-three years been a member of the Illinois State Medical Society, of which he has been twice made chairman of its committee on Local Medical Societies, also of its section on Practical Medicine, likewise was chairman of a special committee on the History of the Illinois State Medical Society, a member of its Council for six years, more than half of which period he was chairman of such body, is an ex-vice-president, also an ex-president, and is now a life member of such state society, all of which preferments have come to the recipient wholly unsought. For more than thirty years he has been a member of the American Medical Association, also has been a member of other medical organizations, as the Marshall County Medical Society, the Army and Navy Medical Association and the American Association of Railway Surgeons.

RECAPITULATION.

It might not be altogether uninteresting or out of place on this tri-centennial occasion to here record a few additional items relative to this association and its membership, including therewith a recapitulation of some of the facts already stated.

Seven of the fifteen founders, or nearly 50 per cent. of the whole number, were born in Ohio, no other state supplying a birthplace for

more than a single member, although those from the New England states amounted to a total of five out of the other eight members. Seven were primarily graduates of Rush Medical College, while one of this number later received an honorary degree from his alma mater. One of those who graduated elsewhere received the first *ad eundem* degree ever conferred by such college, and yet another member took postgraduate instruction at this same institution. Of the eight other founders, no two of them were originally graduates of the same medical school.

Nine of them, as before mentioned, saw more or less service in the Civil War, seven as surgeons and two in the ranks, while one of such nine had served in the war with Mexico at an earlier date. Of the five surviving founders one is an ex-secretary and an ex-president of the Illinois State Dental Society, an ex-teacher in the dental profession of Illinois, and an ex-dean of the dental department of a public university in a distant state. Another is an ex-member of a state board of health, an ex-medical lecturer and an ex-professor of three distinct medical institutions, two of which were the medical departments of separate state universities. Still another is an ex-president of several medical organizations, including the State Medical Society.

A longer account in further detail of conspicuous positions at some time occupied, both inside and outside of the medical profession by members of this association, might be added did time permit.

All save one of the deceased organizers died in the professional harness, and all save one of those now living are still discharging, with possibly somewhat lessened energies, the duties of the several professions to which they now more especially belong, only two, however, being wholly engaged in the practice of their original profession.

Eight of the ten deceased founders, when the final summons came, were still residents of the same localities as when the society was first instituted, one only of the two others having removed without the state. Of the five living, three have remained continuous residents of Illinois and of the same places as when all united together in the commendable effort of organizing a district association for the territory of northern central Illinois. During its existence the names of about 300 physicians have been enrolled among applicants for membership in this association.

Eleven of its entire membership have been awarded life certificates as a meritorious compliment for twenty-five years of faithful discharge of their relations and obligations to the organization, five of whom have since passed to their reward. Thirty-eight of the whole active membership, from Dr. Windsor P. Woodbridge of La Salle in 1881 to Dr. Frederick Cole of Garden City, Kansas, in 1905, are known to have died during the period since organization. Their various ages at date of death have ranged all the way between that of Dr. Edward G. Minor of Streator, at 28, to Dr. Robert Boal of Lacon, at 96 years.

This Association's influence has not been circumscribed by the boundaries of its own district, since it has supplied from its permanent membership to the State Medical Society four presidents, three others as vice-presidents, the present efficient secretary, three councilors, two of whom

have in turn presided over the Council, and numerous chairmen of important sections and committees, thus aiding materially in promoting the interests of the profession throughout the state. We may consider ourselves very fortunate, indeed, in having finally succeeded in securing excellent individual photographs of each of the original members and to now be able for the first time to submit them to your inspection. (Cabinet photographs were here exhibited.) Such but very recently completed list of mementos, consisting of both sketches and pictures of each, has not been obtained at this late day, as might be reasonably concluded, without much effort, patience and perseverance exercised over a long period of time. That it has been at last secured, and in time for this tri-centennial occasion, notwithstanding that in the interval following organization a period nearly equivalent to the life of a single generation has passed away, may well be a source of congratulation. It is undoubtedly a noteworthy fact that a like attainment with equally complete conditions must have been heretofore quite rare in the history of similar organizations within our state.

IN CONCLUSION.

Looking backward over the many years which have flown by since this association was established and recalling to mind the noble spirits with whom he was associated in such enterprises, the writer is caused to feel profoundly grateful for, and to heartily appreciate, the many valuable privileges thus enjoyed, and for the almost "one thousand and one" helpful and inspiring influences received and thus provided as a result of such organization's existence.

That a like substantial interest in this society, and an equally sincere devotion to its welfare and commendable purposes to that manifested by its founders, may be transmitted from generation to generation of those who may come after them, is greatly to be desired, and its fulfillment can not fail to prove an ever-present and future benediction upon the organization and its multiplied beneficent influences.

As one of the three only of the original founders now residing within the state, and as the last one of all who of late has been able to be in constant attendance upon the annual meeting of this association, the writer may hope to be excused for presenting this extended account at this time, and for indulging in a desire, or perhaps a feeling, of duty to here enter upon further eulogy of each of his early and beloved associates of that period; but this must now be omitted. In closing, however, he can not refrain from testifying of them that each and all were men worthy to have been held in high esteem, both by the public and their profession, and were so estimated in the several communities wherein they lived and labored. They were so esteemed for their many excellent and honorable traits of character, for their public spirit and enterprise, as representative and patriotic citizens of their several communities of the commonwealth and of the nation, for their commendable interest always exhibited toward professional improvement and their labors in

behalf of the public and their patrons whom they were called upon to serve, for their self-sacrificing zeal in whatever pertained to the advancement and progress of rational medicine and the allied sciences, and last, but not least, for their forethought and wisdom in conceiving and their efforts and energy in successfully founding and maintaining the North Central Illinois Medical Association.

THE DIAGNOSIS AND TREATMENT OF COMMONER INJURIES OF THE EYE.*

WILLIAM E. GAMBLE, B.S., M.D.

CHICAGO.

My experience with the general practitioner and the surgeon leads me to believe that they would gladly wash their hands of the treatment of eye injuries. This mental attitude is partly owing to the fact that they may not, in some cases, take sufficient time and care in making the diagnosis, and, therefore, feel uncertain as to the real condition of the eye; but more especially it is because occasionally from the most trivial injuries the most disastrous results follow. This is especially true of injuries of the cornea which, from its exposed position and from its peculiar anatomical construction, being without blood vessels, and from the necessity for its perfect transparency, becomes the chief seat of danger to the patient's sight and the source from which malpractice suits and suits for damages arise.

This tissue, when punctured by a clean instrument, as, for example, in cataract extraction, has great reparative power, and but a few days are required for the healing process to take place; but add to the injury the factor of infection, and this tissue, of all tissues in the body, is least able to take care of itself. This is especially true when the injury, however trivial, is in the center of the cornea, being farthest away from the blood vessels about its limbus, for here the bacilli and cocci can work the greatest length of time unhindered by the action of the white blood cells which come from the distant capillaries, the result being scar formation—leucomata—which materially lessens its transparency; or the eye may be completely destroyed by the infective process.

It is very difficult, if not well-nigh impossible, to make a careful study of the cornea when it is injured, without the assistance of a corneal loupe, a condensing lens and a stain of some sort, because the patient from photophobia screws the lids together. A Coddington loupe is commonly used. I prefer the Berger bifocal loupe. A 14 D. to 20 D. lens is well suited for condensing light on the cornea—oblique illumination; I use a 2 per cent. solution of fluorescein made neutral by bicarbonate of soda. By dropping this solution into the eye and allowing it to remain for five minutes the least loss of epithelium—abrasion of the cornea—will be shown by the presence of a green stain. A 4 per cent. solution of cocain used a few minutes before using the stain increases its staining

* Read at Meeting of Chicago Medical Society, Dec. 4, 1906. For discussion see p. 334.

qualities. Often it is unnecessary to use the loupe, but always the condenser, focusing the light carefully over the cornea. These unrecognized abrasions are the most frequent cause of ulcers of the cornea. Especially is this the case when blennorrhea of the lachrymal sac is present. It is here especially that the old adage, "an ounce of prevention is worth a pound of cure" applies, for from the excessive pain these patients come to you as soon as they can get to the office, so that you see them early.

Proper irrigation to cleanse the conjunctival sac, and a protective bandage, keeping the eyeball still and thereby preventing mechanical interference with the proliferation of the epithelial cells over the denuded area will, in twenty-four to thirty hours, effect a cure; while without a bandage it may take several days for the epithelia to cover over the denuded surface, and in the meantime the danger of infection is very great; with the untoward results, ulcer of the cornea and scar tissue formation later, and consequently more or less permanent loss of sight.

FOREIGN BODIES IN THE CORNEA.

Especially small particles of glass or stone may occasionally remain undetected without the aid of this stain. The epithelium around the foreign body being disturbed, will take on the stain, while the foreign body itself remains as a black spot, and with the aid of the loop and condensing lens one will have no difficulty in seeing it. The nature of the foreign body can usually be determined by the history of the patient's occupation at the time of injury. If it is a particle of woody fiber or other substance that has been blown in by the wind it can usually be removed without further disturbing the epithelial layer by means of cotton tightly wound about a toothpick. After cocainizing the eye with a 4 per cent. solution of cocain, the end of this cotton-wrapped toothpick rubbed gently over the foreign body usually enmeshes it and it easily comes off.

Cinders blown from the smoke stack and pieces of metal thrown off by the emery wheel become fixed in the epithelial layer. These, after being definitely located and the eye cocainized, can best be picked out by aid of a cataract needle or spud that is not too sharp. This operation should only be done with the aid of the loupe, as in this way the least disturbance of the epithelia about the foreign body can be obtained. These particles when thrown off are sterile, having been rendered so by heat, and if left to themselves often slough out without further danger to the cornea other than the traumatism. Commonly the meddlesome interference of a fellow-employé with his jackknife or some other infected instrument renders this comparatively harmless traumatism into the much dreaded ulcer.

It might as well be stated here as at any other place in this paper that the prognosis in injuries of the cornea, however trivial, should be very guarded, and yet not more pessimistic than the facts warrant, which can only be determined by careful study of the cornea as here indicated. Extreme optimism is never warranted. Infection may occur at any time or may take on malignant activity at any time, for we are not only handi-

capped by the weakness of the cornea against microbic invasion, but we are unable to use many of the means of modifying the growth of microbes or destroying them, for the reason that solutions sufficiently bactericide to have this effect disturb the nutrition of or destroy the epithelial layer itself, and therefore offer a pabulum upon which germs feed. Solutions in the main are used for the purpose of irrigation. A half-saturated solution of boric acid or normal salt solution will best answer that purpose. After removal of the foreign body and irrigation as above indicated, the protective bandage should be applied and kept on the eye until the denuded spot will no longer take on the stain, which shows that the abraded spot has been covered with epithelia and therefore has no need of further treatment.

HYPOPION ULCER OR SERPIGINOUS KERATITIS.

While the sterile particles embedded in the epithelial layer of the cornea are comparatively harmless when properly treated, masons plying their vocation, and laborers tearing down old brick and stone buildings, often receive small particles in the eye which cause hypopion nleer, one of the most formidable eye diseases with which we have to deal, usually resulting in total destruction of the eyeball. The malignant type of this disease is almost universally due to pneumococci, while the less severe type is due to streptococci. This condition is usually found in patients of lowered vitality from bad habits or poor surroundings, and is commonly found among day laborers.

Clinically it presents a picture that is characteristic: history of a foreign body in the eye a few days before, usually in the center of the cornea, a crescentic infiltration seen about the site of the ulcer, now developed, which spreads and spreads until the whole cornea sloughs away. Hypopion is commonly seen early. This same condition is seen in workers in the harvest field, the awns of beards of grain producing slight abrasions of the cornea and furnishing the infection atrium. It is in these cases that the surgeon should be particularly careful in making a prognosis and should promptly institute the most painstaking treatment. In addition to carefully removing the foreign body profuse irrigation with warm boric solution should be used and the protective bandage applied. I instill a 1 per cent. solution of atropin and try to see the patient for the next five or six days.

If ulcer develops following such injuries, I cauterize with 95 per cent. carbolic acid, applied with the thinnest layer of cotton on a toothpick. If this does not stop the ulcerative process the actual cautery should be used. This will probably be the most effective remedy. Professor Saemisch instituted what is known as the "Saemisch incision," which has the disadvantage that there is incarceration of the iris in the wound, and the further disadvantage that the cornea is greatly weakened and even if the healing process does take place promptly there is often later anterior staphyloma of the whole cornea, necessitating enucleation of the eye.

DEEPER INJURIES OF THE CORNEA AND CONJUNCTIVA.

Superficial injuries of the conjunctiva, unless there is considerable loss of tissue, are of but little importance, for they readily heal and scarcely require the aid of a suture. Foreign bodies in the conjunctival sac can be easily removed by inverting the upper lid and wiping off the foreign body with cotton. Powder grains can best be removed by cutting them out with small seissors.

Burns of the cornea and conjunctiva are of frequent occurrence and, with the exception of strong ammonia fumes, etc., may cause a lesion deeper than the epithelial layer, and consequently result in scar tissue formation in one or both tissues, producing more or less adhesion of the eyelid to the globe, a condition which greatly disfigures the patient. The motion of the eyeball is more or less restricted. This continued pulling upon the eyeball renders it irritable. Usually these cases come to us so late that we are unable by chemical means to retard or destroy the caustic action of the burning agent. If we see the patient soon enough in cases of burning by mortar, oil can be used to irrigate the conjunctiva, but practically I have seldom seen a case soon enough to be worth while to use the oil irrigation. Irrigation with a fairly strong stream of water, flushing out and mechanically displacing the particles of lime and mortar, and picking out those that do not wash away is the best means of getting rid of the offending substance.

The use of cocainized vaselin is very grateful to the patient for the first twenty-four hours. Cold compresses tend to relieve the pain. After the acute pain has subsided, sterilized vaselin is placed in the conjunctival sac twice a day. Atropin, of course, is used when the cornea is involved. Similar treatment would be indicated in burns from other causes. The recovery in these cases is very slow, requiring weeks and sometimes months for complete repair. The symblepharon resulting may be partial or very extensive, depending on whether or not the burn extended into the cul-de-sac. Until recently the repair of extensive or total symblepharon was beyond the surgeon's art. The credit for working out a successful operative procedure belongs to one of our own citizens, Prof. F. C. Hotz. By use of Thiersch grafts and lead plates—"block tin"—this deformity is relieved.

PERFORATING WOUNDS OF THE EYEBALL.

While we have seen that superficial wounds of the cornea are very prone to produce infection of the cornea, perforating wounds are almost immune from this complication, which may be accounted for by the fact that the outrushing aqueous humor washes away the *materies morbi*, while a perforation of the sclera by the same instrument would cause panophthalmitis, this being due to the fact that the infecting material is not washed out and the vitreous humor forms a good culture media. However, while in perforating wounds of the cornea the eye frequently escapes infection, yet it suffers frequently from injury to the lens, producing traumatic cataract, or entanglement of the iris in the wound, prolapse of iris, which necessitates prompt and heroic treatment, for this

vaseular tissue, extending from without the eyeball, forms a bridge for the passage of the infective material to the interior from which the eye may suffer secondarily.

In perforation of the sclera, attempts should never be made to suture the sclera itself. Clip off the protruding bead of vitreous and suture the conjunctiva over the perforation in the sclera. Traumatic cataract can usually be satisfactorily treated by keeping the eye at rest by a bandage and the use of atropin. It occasionally happens that so great swelling occurs in the lens that glaucoma supervenes, when the lens material must be removed by incision in the cornea to save the eye from the disastrous results of this complication.

In cases of prolapse of the iris, if the patient is seen within a few hours after the injury, the following operative procedure should be at once instituted. After thoroughly irrigating the conjunctival sac and cocain applied, the prolapse should be separated by a thin spatula from the grasp of the corneal wound, and with a pair of iris forceps the iris should then be pulled out about one-eighth of an inch and with one stroke of the scissors the protruding part should be snipped off, allowing the remaining iris to fall back into the anterior chamber in its natural position. If the patient is not seen until thirty-six hours or more after the injury, the prolapse at that time is thoroughly bound down by inflammatory exudate and it is not then advisable to reopen the wound, as many cases have been reported in which panophthalmitis followed this later reopening of the wound. When inflammatory complications follow in these cases they are usually of the acute type and come on within the first week.

Perforating injuries in the region of the ciliary body, that is, one-eighth of an inch back of the limbus of the cornea, are always of serious import to the injured eye, for to the danger of panophthalmitis may be added the results of the injury to the ciliary processes, the vital organ of the eye, which may result in permanent reduction in tension with consequent shrinking of the eyeball, and thereby complete loss of vision. While there is danger of sympathetic ophthalmia resulting from perforations of any part of the eyeball, yet experience has taught that perforating wounds through the ciliary body, and especially if the iris or ciliary body prolapse, is by far the commonest source of this much dreaded complication. Enucleation is to be advised in perforation through this region by a blunt instrument producing much destruction of tissue with loss of sight. It often forms a knotty problem for the surgeon to know how to treat injuries of a lesser degree, with the preservation of useful sight. It is not now opportune to discuss this in detail, as I think the responsibility in these cases should be left with the ophthalmologist.

I think it should be emphasized in this connection that the inflammatory process in the offending eye that leads to sympathetic ophthalmia in its fellow is not, as a rule, of the acute type, but is a low-grade inflammatory process, which is almost universally accompanied by tenderness on pressure of the offending eye. It is seldom that foreign bodies become encysted in the eye and therefore of no further danger to that

organ. I have seen examples of foreign bodies in the lens remaining for years without any untoward results except to the lens. Besides such mechanical irritation as is caused by non-oxidizable particles in the eye there is added the danger of chemical decomposition which takes place in the iron, steel and copper particles, and are most harmful when the body is lying in the region of the ciliary body. It is scarcely needful to say that in every case the foreign body should be removed if possible, and if not possible that the eye should be sacrificed.

In conclusion I wish to call your special attention to the great value of the Haab, or giant magnet, in removing magnetizable particles from the eye. In a large percentage of cases these chips of iron and steel can be removed from the eye by the Haab magnet with a resulting useful eye, if the patient is seen early. In all cases where the eyeball is not destroyed by the piece of steel or other magnetizable substances the magnet should be tried. Usually the presence of the foreign body in the eye can be determined by the reaction of the magnet upon it. A feeling of pain when the magnet is held close to the eye is produced, which is evidence that the foreign body is in the eye. In cases where the particle has been in the eye for several days we may not get this reaction, and in such cases a radiograph should be made to determine whether it is present or not. There are comparatively few of these magnets in this country. So far as I know, Chicago has but two. Much to her discredit, this city has secured these only within the last five years.

The general hospital of every large industrial center should possess one, and the attending ophthalmologist trained in the use of this valuable instrument, for a large per cent. of the victims of these injuries are financially unable to go to the ophthalmic hospitals in the large cities for treatment, and in many cases their eyes are therefore unnecessarily sacrificed.

THE TREND IN MODERN MEDICINE.*

E. P. COOK, M.D.

MENDOTA, ILL.

No field of scientific endeavor is more sensitive or responsive to the fluctuating state of our knowledge in related and cognate branches than is the practice of medicine. Medicine appropriates and puts to practical use the contributions of chemistry, physics, biology and allied sciences. It is pre-eminently cosmopolitan, if one may so use the term, for it levies tribute not only in every quarter of the globe, but on every other science worthy of the name. Many discoveries, like the *x*-ray, for example, which possess only an academic interest in the field in which they originally appeared, find their real application to human needs when they become a part of the physician's armamentarium.

It follows naturally, therefore, that changes in medical opinion and procedure are frequent and oftentimes revolutionary in character. Some

* Presidential Address delivered before the Annual Meeting of the North Central Illinois Medical Association, Sterling, Ill., Dec. 3-4, 1907.

fundamental discovery in etiology or pathology may render obsolete almost in a moment well established conclusions concerning an important disease, as witness the radical change of opinion regarding tertiary syphilis which has resulted from the recent studies of the *Spirochaeta pallida*. These changes of front, however, do not indicate indecision or uncertainty, but instead are evidences of progress, since medicine, like most sciences, does not advance in a straight line but by a zigzag course, which brings one, nevertheless, constantly nearer to the goal of the exact truth.

The application of the exact methods of the laboratory to the problems of the clinician has resulted in additions to our store of diagnostic data, the importance of which it is difficult to estimate. The epoch-making demonstration by Laveran of the plasmodium as the infective agent in malaria, and the no less valuable work of Widal a little later in pointing out a specific test for typhoid fever, have relegated such hybrid diagnoses as "typhoid malaria" to the limbo of the historical and brought order to the classification of an important group of febrile affections. These are a type of the priceless contributions of the laboratory investigator. It is not surprising, therefore, that in our enthusiasm over these means of accurate diagnosis we have been prone to forget the limitations of the purely laboratory diagnosis. It is gratifying, however, to note a growing tendency to assign to the laboratory a less commanding place in practical diagnosis. Too much reliance on laboratory tests without corresponding bedside findings has been responsible for many diagnostic mistakes. The following personal observation is instructive in this connection: A gentleman, 70 years of age, consulted me for attacks of severe pain in the upper abdomen, associated with vomiting, loss of appetite and progressive decrease in weight and strength. There was marked epigastric tenderness but no tumor. The pains were so severe that the patient dreaded to take food and morphia was required for their relief. His previous health had been good. The urinalysis was negative. Suspecting cancer of the stomach, gastric lavage was resorted to and a test meal given. Examination showed absence of HCl. Repeated test meals gave the same result. I naturally made a tentative diagnosis of carcinoma of the stomach. Several weeks later I was called to relieve the patient of a sudden complete urinary retention due to prostatic enlargement. Systematic catheterization was necessary for two weeks. There was immediate disappearance of the gastric symptoms as soon as urinary drainage was provided for. I then learned that the patient had had difficulty in urination for some time, but had referred it to the natural discomfort of age. He rapidly regained his health and has been well for the last two years. The gastric symptoms must be attributed to the urinary toxemia.

The history of the development of the x-ray affords a valuable lesson as to the need of conservatism in the acceptance of a new agent or method. It is only lately that we have been able to assign its legitimate place. Although a welcome addition to our therapeutic resources, it has fallen far short of the hopes aroused at its announcement. Its curative

power in leukemia and cancer especially has been limited indeed. Instead of being a remedy to be freely used by every village doctor, it is now recognized as an agent of dangerous potency, fraught with peril not only to the patient but the operator himself. The present tendency, therefore, is to wisely restrict its use to definite diagnostic and therapeutic indications and to insist that it should be employed only by operators competent to guard against its injurious effects.

The extravagant claims recently made for the vaccinal treatment of certain diseases according to the theory of Wright are a natural consequence of the prevalent tendency to hurry every new discovery into print. It is hardly to the credit of modern science to compare the present fashion of issuing a preliminary note of every projected investigation with the careful conservatism which Sir Isaac Newton displayed before he gave to the world his theory of gravitation. Many years elapsed after his first work on the subject until he felt justified in publishing his conclusions, and then his evidence was so complete that no one has yet been able to contradict it in the minutest particular. That this modern tendency to premature announcement of the results of an investigation in some medical problem is not confined to the lesser members of the profession has been repeatedly demonstrated. Many will recall the unfortunate results of the ill-advised announcement of Koch's tuberculin treatment of phthisis. It is a pity also that the luster of the same great scientist's contributions to human knowledge was further dimmed by the hasty delivery of his views on the relation of human and bovine tuberculosis, views which have since been thoroughly discredited by careful study in various laboratories in different parts of the world.

The keynote to the modern tendencies in surgical work is simplicity. Most of the important surgical procedures have been greatly simplified during the last decade. Take, for example, the operation for the radical cure of hernia. We have learned that the most important step in the operation for inguinal hernia is the careful obliteration of the sac. Given in addition aseptic healing and it makes little difference whose particular modification of the original Bassini operation is adopted. The same simplifying tendency is also seen in the matter of instrumental equipment. A few years ago it was the ambition of every teacher of obstetrics to invent some modification of the obstetrical forceps to perpetuate his fame. The variety of forceps was only limited by the number of professors. According to the most advanced view of to-day a single pair of the improved axis-traction forceps will suffice to meet every need for high or low forceps delivery for the reason that this instrument embodies the correct mechanical principle. Likewise, the Sims speculum and its various modifications have rendered obsolete the imposing array of bi-valve, tri-valve and multi-valve specula which formerly encumbered the gynecologist's table. It is another instance of the simplifying influence of the discovery of the true principle underlying a given procedure. Other advances in the mechanics of surgery might be cited. Our older members will recall the wonderful change in technic that was made possible by that simplest of inventions, the hemostatic forceps. The aseptic

ligature and the absorbable suture constitute a further great advance. But most valuable of all the recent additions to the modern surgical equipment is the seamless rubber glove. I recall the crude gauntlets used by Halsted of Johns Hopkins in 1895. It is a long step from these to the perfected rubber glove of 1907. The rubber glove is the last link in the chain of aseptic defense that limits the source of infection in an operation to the patient himself. The time will soon arrive, if it is not already here, when it will be considered as unpardonable an error in technic to introduce the unprotected hand or finger into an open wound as it is to use an unsterilized dressing or a dirty instrument.

An interesting change of late years, due to the more frequent resort to surgery in abdominal disease especially, is the substitution of the living pathology of the operating table for the dead-house pathology so long in the ascendency. The illuminating studies of duodenal and gastric ulcer *intra vitam* have demonstrated the great value of the newer method. An important result has been a closer association of the pathological and physiological factors with a resultant increase in practical knowledge. The natural consequence has been a tendency toward the radical surgical attack of many lesions which were formerly left to the exclusive care of the internist. By an early operation it is hoped to remove the pathological condition before the disturbance becomes irremediable. There can be no doubt that this broadening of the field of surgery at the expense of internal medicine has been justifiable. Nevertheless, that there is a danger of going too far in our operative furor is shown by the more conservative attitude assumed of late by surgeons of large experience. The removal of the pyloric end of the stomach may be done with impunity so far as the operative mortality is concerned, but it can not be done with impunity as regards the preservation of the physiological functions of the organ. If a patient with a truncated stomach must ever afterward lead that careful and abstemious life which in many cases of itself without operation would have given him the same comfort and security, it is difficult to see how he has been benefited by surgery. That gastroenterostomy, too, is not always an advantage to the patient has been shown by the unfortunate occurrence in not a few instances of a peptic ulcer in the jejunum following this operation in cases of gastric or duodenal ulcer, all of which goes to prove that the problem in these cases is far from being a mere mechanical or surgical one. With the rapid invasion of these fields by the surgeon it looked for a time as if the internist was doomed to a subordinate place in the scheme of modern medicine. A little more experience with some of the end results of surgery has already served to dissipate this fear. No more striking sign of this reaction can be cited than the conservatism with which we approach a case of movable kidney to-day as compared with the operative furor of a few years ago.

One of the most important tendencies, if not the most striking, in modern medicine remains to be mentioned. I refer to the recognition of the importance of the psychic side of medical practice as distinguished from the purely scientific aspect. There is a commendable effort to ac-

centuate the rôle of the art of medicine. Just as spiritualism did good by destroying the idea of a material hades, so the mind cure and faith healing cults of recent years have had a beneficial influence in rendering more humanitarian the cold, scientific aspect of medical practice. We are coming to recognize more and more that every patient who makes a complaint has by virtue of that fact something the matter with him, even if it is only a perverted imagination. And it does not alter the argument if, as oftentimes seems to be the case, the less dependent his trouble is on some definite physical lesion, contrarywise the more he is going to insist that something be done. With the recognition of the importance of the psychic element in medical practice has come an effort to reduce the newer problems to a scientific basis. The valuable studies of Dubois and others indicate the lines along which much of our future work as practicing physicians will be developed. The physician of the coming century must be well equipped not alone in the scientific knowledge of the human body, but he must become a psychologist abundantly versed in the intimate secrets of the human mind.

DRUGS IN DIABETES.*

ARTHUR R. ELLIOTT, M.D.

CHICAGO.

In diabetes the opportunities for deceiving ourselves regarding the action of drugs are very great. Our imperfect knowledge of the pathology of the disease, the obscurity of the nutritive problems involved, and the inherent difficulties of their solution, not to mention the easy optimism with which we even now lend ourselves to empirical drug employment, are factors which combine to obscure our judgment with relation to the value of drugs in diabetes. On the part of the patient, there is the belief in the wonder-working power of drugs, which is so familiar and pathetic, so that to whatever medicine is employed, be it even a placebo, is at once in the mind of the patient ascribed the benefit, in reality due to diet and hygiene. Moreover, the diabetic is excessively influenced by suggestion, a factor which must be kept in mind to discount the net results of any vaunted remedy.

With the exception of a few of the higher class experimental observations on drug therapy in diabetes, a great deal of inexactness characterizes the literature of the subject. No care is taken to designate the age of patient, form of disease, etc., of cases reported, yet these are factors which we know to be all-important in determining the clinical course. Moreover, as a rule, no proper care is taken to differentiate the improvement due to diet from that which might with justice be attributed to the drug employed, thereby rendering the reports and their conclusions valueless. In fact, the whole question of drug treatment in diabetes is a maze of discrepancies and contradictions. If we examine the matter either in the light of theory or experience, it is difficult to see how we may hope to accomplish any ultimate good by this means.

* Read before the Chicago Medical Society, Dec. 11, 1907. For discussion see p. 337.

It would serve no good purpose to enumerate the drugs that have been recommended in this disease. Their name is legion. Many of the preparations formerly in vogue with the profession have passed into the oblivion they deserve. A large number still survive to some degree in popular favor, and the list is being added to constantly. Judging from past experience, no suggestion in this direction is too absurd or far-fetched to fail to receive some degree of popular credence and cooperation. A survey of the drugs advocated during the past ten years reveals a total of forty-one different preparations, and there may be others that have escaped my attention. The retrospect would be amusing were it not pathetic.

Drugs are used in diabetes, either as specifics (anti-diabetics) or for their effect in combatting symptoms and complications and for improving the general systemic condition. When used for the latter purpose, their employment is perfectly rational and justifiable. We will not consider this aspect of the subject, since such measures depend on the fortunes of each individual case and will readily suggest themselves to the mind of any intelligent physician on general principles.

It is with the use of drugs as specifics that we have most interest, and it is this aspect of the subject we will briefly consider. In the first place, it will be readily conceded that our ideas of the pathogenesis of diabetes are very hazy. We have no intelligent basis, therefore, on which to work out our theories and deductions as to specific therapy. The drugs which enjoy a reputation as specifics are said to act by "raising the boundaries of tolerance for carbohydrates" or "by restricting glyeogenesis," yet we do not know what either of these terms really means.

If, after the administration of any drug, properly regulated, diminution in the glycosuria is observed, we must not be too ready to interpret this as a direct specific effect on carbohydrate metabolism. It is claimed, and such claims are hard to disprove, that anti-diabetic drugs act indirectly by depressing the organism, interfering with appetite, digestion and assimilation, and so reducing the food intake and the resulting glycosuria, rather than by direct effect on carbohydrate metabolism. As a matter of fact, anti-diabetic drugs appear to be effective only in direct ratio to their toxicity, and to secure results from any one of them it must be used in large doses. Is it rational therapy to depress the systemic activities, in other words the general health, in order to modify a symptom? The fact that all of these medicaments soon lose their efficiency—the patient wearing out the drug, as it were—the organism apparently adjusting itself to the presence of the drugs, so that we must exhibit larger and larger doses or forego their administration as no longer effectual—seems to point to the toxic character of their action. In the case of certain coal-tar derivatives and the salicylates, it is more than possible that at least some of their apparent control of the glycosuria is due to the inhibitory effect which the presence of these medicinal bodies in the urine exercises over the clinical tests for sugar. All authorities, including those who advocate anti-diabetic drugs, acknowledge that their effect is but temporary, passing with the withdrawal of the drug, and that their influence is apparent in the urinary condition only.

Control of the glycosuria is by no means the sole nor indeed the most important object in view in our treatment of diabetes. Any effect of this kind which is not coupled with improvement in the patient's general nutrition, weight curve, and toxemia can hardly be considered a gain, and that anti-diabetic drugs contribute in any important or permanent way to this general effect has at least not been my experience.

A most important fact to be kept in mind in starting a patient out on specific drug therapy is the moral effect. It is inviting failure to give a drug cure to the diabetic. The diabetic patient more than any other requires education, and this should take the form of emphatic and repeated instruction that his well-being depends on the faithfulness with which he adheres to the principles of diet; that there is no cure possible by means of drugs. By beginning the treatment with drugs, the patient, ever prone to believe in the occult power of medicine, comes by degrees to rely upon this part of his treatment rather than upon the infinitely more valuable dietary rules.

He very naturally tends to follow the path of least resistance and prefers his capsules or drops as an easy road to cure rather than the more arduous self-denying system of diet. Unless controlled with the utmost emphasis and persistence, he will soon or late lapse into careless habits of diet, depending on his drugs to pull him through. I incline strongly to the opinion that drugs make a poor support for the diabetic to lean upon, and when employed as specifics do more harm than good.

The question of drug therapy should perhaps not be dismissed without some reference to a few of the remedies most employed. Opium is the first one on the list. I seldom see a patient with diabetes who has not at some time been given this drug. It seems to matter little what type of case is under treatment. I judge from this that opium is looked upon in the nature of a specific in this disease. This is far outside the claim of its most sanguine advocate. When given in heavy doses, it undoubtedly diminishes the appetite when excessive, and consequently may secondarily reduce the glycosuria, but it does so by depressing the bodily functions generally. Its action on the moral and intellectual faculties is unfavorable to the progress of the case, and the danger of converting the patient into an opium habitué is to be kept in mind. It undoubtedly predisposes to coma in toxic cases. The rules for its employment are difficult to define, but it is observed to produce its best effect in cases of medium severity, in which, after strict dieting, a small quantity of sugar persists in the urine. In obese diabetics and in severe cases toward the end it should be withheld, and it is useless to give it to patients who are allowed large amounts of carbohydrates. Its long-continued and indiscriminate administration is unjustifiable. It exerts no permanent influence over the diabetes, and its effects on any given case can not be foretold.

As regards antipyrin, acetanilid, aspirin and the salicylates, I have little to say. They depress the patient, cause cardiac irritability oftentimes, and have been known to bring on albuminuria and nephritis. The salicylates may do good in gouty cases.

Jambul, next to opium and arsenic the most frequently employed anti-diabetic, has proved worthless in my hands. In fact, summing up my personal experience with so-called drug specifics in this disease, I would say that I have never observed a case that I could honestly say was benefited by them, but I have many times seen cases distinctly prejudiced by their employment.

A word regarding arsenic. This drug can not be considered as essentially an anti-diabetic drug. Notwithstanding this fact, it is employed as such, and is the principal stock in trade of the nostrum venders. Given in small doses, it acts well on the general nutrition and may do good. The maximum benefits are secured by small tonic doses. In large and increasing doses, as frequently employed for an imagined specific effect, it is capable of doing much harm by introducing a pernicious drug intoxication into a condition already sufficiently toxic. The only effect I have ever seen follow massive doses is arsenical poisoning. The action of potassium iodid in small doses long continued is to be commended in diabetes of arteriosclerotic type. Mercury and the iodids are often of signal benefit in syphilitic patients with diabetes.

A medicinal measure of distinct value in diabetes is the administration of alkalies. The urine generally possesses a plus acidity, and diabetic coma is attributed to an intoxication with organic acids. The routine administration of alkalies forms a valuable adjunct to the treatment of this disease. They may be given in the form of mineral waters, such as Carlsbad and Vichy, or in the form of one of the medicinal salts—carbonates, bicarbonates, citrates or tartrates. The sodium salts are to be preferred, owing to their lower toxicity, and the bicarbonate has always been the one most used. The dose will depend on the stage of the disease and the degree of acid toxemia. In cases without acidosis, the routine administration of moderate doses, varying from ten to forty grains, three times or more a day, will suffice. In the acid intoxication of severe cases of the disease alkalies exert a positive prophylactic effect against coma by disintoxicating the poisonous acids in the blood. To accomplish this they must be administered in large doses. It is a good plan to give at least one-half ounce of sodium bicarbonate a day to every patient whose urine contains acetone bodies. If coma is impending, this amount should be greatly increased, to two, three or four times that quantity. If the patient be constipated, sodium citrate may with advantage be added to the sodium bicarbonate for its laxative effect, and von Noorden suggests the additional employment of calcium carbonate to replace the calcium waste characteristic of this disease.

Any consideration, however brief, of the drug therapy of diabetes would be incomplete without some reference to organotherapy. This is a new kind of empiricism which has grown out of the newer physiology and our studies in the pathology of diabetes. Pancreas extract and liver extract have been administered to cases of appropriate type under the assumption that thereby the gland supposedly at fault will be stimulated to improved action. The results have almost invariably been disappointing, and we hear little now of this form of substitution therapy. As an

abuse which has grown out of attempts at organotherapy may be mentioned the employment of thyroid and suprarenal extracts, which have both been praised for their effect on this disease. They need only be mentioned to be condemned, since we now recognize that glycosuria may rather be produced than abolished by these extracts.

Very recently a new departure in organotherapy is being undertaken, which theoretically at least bears some promise of good results. In 1906 Bayliss and Starling (Recent Advances in the Physiology of Digestion, E. H. Starling, 1906) demonstrated that when hydrochloric acid comes in contact with the epithelial cells of the duodenum and upper part of the jejunum, a substance is formed which acts as a stimulant to the external secretion of the pancreas. It reaches this organ through the blood, and has been given the name of secretin by its discoverers. The idea has been promulgated that it is possible, since secretin acts as a stimulant to the visible external secretion of the pancreas, that it may act analogously on its glycolytic function—the so-called internal secretion as yet little understood. The reasoning is not altogether clear, since we do not yet know whether the internal and external secretions of the gland are the common products of one set of cells, or are elaborated by two distinct groups of secreting cells, which may not respond to the same stimulant. The treatment of diabetes by means of an acid extract of duodenal mucous membrane has been undertaken by a number of observers. A review of the results so far obtained and a description of the method of preparing the extract will be found in *Progressive Medicine* for June, 1907. An epitome of the experience with this treatment embodied in this review shows 17 cases treated by various observers, with the following results: Negative, 13; temporary improvement, 1; temporary disappearance of sugar from the urine, 1; complete disappearance of sugar from the urine, 1. It will be seen from this record that the results so far secured are not encouraging, but the treatment is in its infancy, and it remains for further experimentation to determine the full extent to which it is effective in diabetes.

The treatment of diabetes with drugs is of very secondary importance, and, in closing this very brief review of the subject, we may conclude with Trousseau that with well-devised hygienic and dietetic measures and the discreet and prudent use of a few drugs only, we may hope to cure a few and relieve a great many diabetic patients.

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MARCH, 1908.

THE DUTY OF THE COUNTY SOCIETIES AND THE ILLINOIS STATE MEDICAL SOCIETY IN RIDDING THE STATE OF ILLEGAL AND CRIMINAL PRACTI- TIONERS OF MEDICINE.

The fact that Illinois is the harvest field for a large number of criminal and illegal practitioners can not be successfully denied. Why the third state and the second city in the Union in size and importance should be so overrun by practitioners of medicine of the lowest type, we have never understood, and yet for some reason or other the laws of Illinois regulating the practice of medicine have never been strong enough to accomplish much when it came to the matter of putting these persons out of business. Evidently one of the great duties of the county and state societies is to take this matter up seriously, beginning a campaign of education among the people to have such laws enacted as will protect the citizens of the state from the ravages of this gentry.

It has been truthfully said that the pirate or highwayman holds up the wayfarer and demands his money or his life, but charlatans, under the guise of a benevolent profession, demand both the money and the life of the person who seeks them under the mistaken idea that their prime object is to make a cure of his disease.

Another feature of this subject is the debauchery of the young and innocent that is carried on by these people in advertising the diseases which they claim to cure. Springfield, a few years ago, was flooded with

a pamphlet describing and picturing venereal diseases, which came into the hands of innocent children and which the court decided was calculated to do a great deal of moral injury. When the charlatan distributing these circulars was called before the court he promptly paid a small fine imposed and promised to stop the distribution of such literature.

We are told that he expressed great surprise that any fuss was made, as he had distributed matter of this sort in several cities of the state without hindrance and no complaint had been before made concerning it.

Some effort has been made by officers of the Chicago Medical Society to stop illegal and disgraceful practice, and an order has been secured from the Postoffice Department preventing certain swindling medical firms from using the mails to advertise their wares. Strange to say, although these firms have been declared fraudulent by the United States Government, the city authorities of Chicago and the state authorities of Illinois seem helpless in requiring them to stop their business altogether. In other words, they can not prey on the people through the mails, but may secure victims in Chicago without let or hindrance. The Chicago society has also undertaken the prosecution of abortionists practicing in the city and a certain amount of good has been accomplished, but still we are certain that the profession and the public have not yet been aroused to the enormity of the crime that has been permitted to exist for the past forty years.

Things are done differently in the city and state of New York. In the *Journal of the American Medical Association* for February 8, 1908, the report of Dr. Floyd M. Crandall, chairman of the Board of Censors of the Medical Society of the County of New York, gives us a good idea of the difficulty of enforcing the law and the magnitude of the work done by his society.

We quote the following apt statements from his report:

"Enforcement of the medical practice laws, and the protection of the public against illegal and criminal practitioners, are among the duties which the county society owes to the profession and to the public. A never-ceasing warfare is waged by the charlatan and the criminal practitioner, and they must be met on two battlefields, the legislature and the courts, and there the medical profession requires an alert and experienced champion who is ready not only to defend but also to attack.

"Unfortunately, many district attorneys can not be relied on, for in some localities neither the people nor the prosecuting officers or judges are educated to the belief that quackery is a very serious offense. Persistence on the part of a county society, however, in most cases would enable it to accomplish results through the constituted legal authorities. The simpler class of quacks and illegal practitioners could thus be reached, but special legal training and experience are necessary to convict many of the clever charlatans who operate outside the routine lines. In the larger cities the work can be done satisfactorily only by specially experienced lawyers, for it has come to be a highly specialized department of legal practice.

"An interesting fact disclosed by the legal work is the change in the

methods of the modern charlatan. He is eminently up to date and keeps well abreast of every discovery. It is one of his chief characteristics that he imitates the latest scientific methods. In combating him, therefore, the methods of attack must be changed constantly. Not only does the quack change his methods as new discoveries are made, but he has also learned a lesson from the promoters of questionable business schemes and frequently seeks legal advice as to how he can safely conduct his unlawful business.

"Notwithstanding these difficulties, some of the strongest and most resolute violators of the medical law have been attacked successfully during the past few years. One of the magistrates of the Court of Special Sessions said not long since: 'The medical society has practically run out of business the ordinary quack. It now seems to be turning its attention to the quack who is coached by a lawyer, or has worked out some ingenious method of his own to evade the medical law'."

Newspaper publicity is the breath of life of the modern charlatan. Shut him out from the newspapers, lay and religious, and debar him from the mails, and you exterminate him, as you do the mosquito by draining the swamps and oiling the water.

Certain features of the decision of the Appellate Division, written by Justice John Proctor Clark, are worthy of notice, for they show a clear understanding of modern medical conditions. "To confine the definition of the words 'practice of medicine'," reads the decision, "to mere administration of drugs or the use of surgical instruments would be to eliminate the very corner stone of successful medical practice, namely, the diagnosis. . . . Diagnosis would seem to be an integral part of both the study and practice of medicine, so recognized by the law as well as common sense. The correct determination of what the trouble is must be the first step for the cure thereof." The judges in their decision then ask the pertinent question, "Would the physician, who by his skill discovered incipient consumption, and who advised the open air treatment and refrained from administering drugs, not be practicing medicine?" The decision was strong and comprehensive and a much more liberal reward for years of labor than is sometimes reaped in this world.

"There is substantial ground for the belief that 100,000 abortions are committed annually in New York. We do not and never have believed that it can be wholly stopped, any more than we expect to wholly stop many other forms of crime, but it can be controlled and limited. So long had it flourished without let or hindrance that it had become reckless of the laws and of public decency. We were driven into the work, as Chicago is now being driven into it. In that city, as in this, midwives and advertising abortionists had been wholly unrestrained, and conditions had become so intolerable that certain organizations had applied to us last summer for advice and help. The Public Health Defense League, therefore, sent Miss Crowell to Chicago and this society sent one of its experienced detectives to aid in investigating and laying the foundation for a campaign against the evil. It is a loathsome business, and the censors and counsel of the society attacked it not from choice

or desire, but because it was forced on them. Not only were complaints being received more and more frequently from members of the society, but the Police Department, the District Attorney's office and the Health Department were referring cases to us as a part of our proper work. Notwithstanding its repelling character, we undertook it as the surgeon undertakes to relieve a sloughing sore.

"The first efforts in the campaign against the midwives at once demonstrated great difficulties. Legal evidence is very difficult to obtain. The operation is performed behind closed doors, and the victim, for obvious reasons, can rarely be used as a witness. Some of the methods that had been universally employed for obtaining evidence in such cases, while admissible, perhaps, by the police, were of a character inappropriate to a society like this, and it was felt by the officers and counsel that they should not be employed. The counsel, therefore, began a series of cases which has established a principle in the courts, by which many criminal midwives have been convicted for agreeing to perform a surgical operation and doing any overt act tending to consummate that agreement, and we now successfully prosecute without using those old objectionable methods.

"But efforts did not end here. The counsel then advanced a theory which had never been brought forward in a legal case, either in this country or abroad, namely, that to conduct a house where abortions are habitually performed constitutes a nuisance and as such can be abated. The working up to this principle was a long and laborious process.

"The test case (*People vs. Hoffman*) came in December last in the prosecution of an especially revolting criminal. She burned a portion of the fetuses in the furnace, but many of them, by an arrangement with a neighboring undertaker, were hidden under the linings of caskets and were thus disposed of. At the trial, however, no operation and no attempt at an operation was shown, nor the commission of an overt act. It was simply shown that she harbored in her house many women on whom criminal operations were performed and in veiled language advertised her house in the daily papers as open for such work. She was convicted of maintaining a nuisance and was sentenced to a year in the penitentiary and to pay a fine of \$500. On appeal, which was argued by Mr. Kindelberger of the District Attorney's office, the Appellate Division, on April 19, 1907, affirmed the conviction and called attention to the fact that although no similar adjudicated cases could be found, the theory of the prosecution was sound. The decision of the court was that "While the offense of abortion is one thing, that of maintaining premises open to the public for the purpose of consummating that crime is another and separate offense against the peace and good order of the state." This is a most important decision and renders easy a problem that three years ago was considered almost impossible of solution.

"We came to the point where we were obliged to stop this criminal business by medical men or go out of business ourselves. We struck, therefore, at two of the largest, and you know the result. The one became a fugitive from justice and the places that once knew him now

know him no more. The other, after as hard a battle as ever was fought in the courts, was convicted. After two appeals, the conviction was sustained by the Court of Appeals, and he served his term in Sing Sing and has been refused pardon by two governors. Moreover, the principle of law was established that it is a crime to attempt to commit abortion.

"A very important provision is the one relative to the revocation of the license to practice medicine. The lawyers have long been able to disbar their disreputable brethren, but the medical profession of New York has stood with tied hands when a physician has turned quack or resorted to a personal or professional life of dishonor. Virtually speaking, nothing short of conviction for a felony could nullify the license to practice after it had once been obtained. Now the license can be revoked by the Board of Regents for many misdemeanors or professional misdeeds, including fraud in practice, but the rights of every physician are fully safeguarded by the prescribed methods of procedure. Hereafter the advertising doctor and the medical black sheep can not pursue their evil ways with the impunity they have hitherto enjoyed."

Evidently the thing for our societies to do is to emulate the activity of our New York brethren and have needed laws passed and, when passed, enforced.

THE LARGER STATE SOCIETIES AND THEIR OFFICIAL JOURNALS.

The Illinois State Medical Society passes an important period in its career with the printing of this issue of 5,100 copies of its journal.

There has been some discussion as to the relative size of our state society and the priority of its journal, and we believe it will not be considered out of place for us to call attention to the steady growth of the society and the relation which it bears to other state societies at the beginning of a new year.

The largest state society, as would be expected, is that of New York, which, since the consolidation of the two separate societies about three years ago, at once reached the first place among other state societies in the number of its members. The report of the secretary of the Medical Society of the State of New York, made at the annual meeting, Jan. 27, 1908, indicated 6,154 members. The secretary further makes the statement that no state society could show better results. The New York Society prints a journal, founded about 1902, the pages of which are slightly larger in dimensions than those of THE ILLINOIS MEDICAL JOURNAL, but containing only fifty-four pages, which, even counting the larger size of the page, would give it only about one-half the number of words printed in our journal. *The New York Journal* is further to be criticized because of the character of some of the advertisements admitted, among them being the notorious proprietaries, California Fig Syrup, Glyco-Thymolin, and Glyco-Heroin. Outside of this serious defect, which, we should think, could be easily and speedily remedied,

the appearance and contents of *The New York Journal* are worthy of the great society which it represents.

Pennsylvania, the next most populous state in the Union, has the second society in rank, numbering Jan. 1, 1908, 4,893 members. The transactions of the Pennsylvania State Society are journalized. The *Journal*, however, has never been the property of the society, being, as we understand it, the private property of Dr. C. L. Stevens, the efficient secretary, residing at Athens, Pa. The *Journal* is almost exactly the same size as THE ILLINOIS MEDICAL JOURNAL, the number of pages each month being eighty-four, or about two-thirds the number of THE ILLINOIS MEDICAL JOURNAL. We are pleased to note that the advertising pages of the Pennsylvania *Journal* retain the characteristics inaugurated by its former owner, Dr. Adolph Koenig, of Pittsburg, who was the pioneer in eliminating undesirable advertisements from the pages of his medical journal, notwithstanding its undoubted effect on his income. The *Pennsylvania Medical Journal* has done, and is doing, a great deal for the state society, and no doubt when the more liberal views advocated by Dr. Roberts, of Philadelphia, are diffused throughout the state there will be a very considerable increase in the number of members of the local and state organizations.

Illinois comes third and bids fair to surpass Pennsylvania by the 1st of June in its membership. Secretary Weis, under date of Feb. 24, 1908, has given us the actual membership of our society as 4,674.

THE JOURNAL was first issued July, 1899, being the first journal owned by a state society. Beginning with an issue of 600 copies of a 48-page magazine, THE JOURNAL has rapidly grown in size and importance. Nearly every one of the 106 county and district societies in the state are represented by reports of transactions one or more times each year. As regards the amount of printed matter furnished each month, Illinois stands first among all state society organs. Thanks to the excellent work and proof reading in the office of the *Journal A. M. A.*, we believe the appearance of THE JOURNAL is equal, if not superior, to any other state journal printed, and, thanks to the officers and members of the Chicago Medical Society and its branches and the various county societies throughout the state, the contents of THE JOURNAL will be found of equal, if not superior, interest to any other state publication.

A certain so-called independent medical journal, in an editorial of unique contradictory and straddling qualities, recently took occasion to criticize the editorial pages of all state journals, stating that "with very few exceptions the society organs are editorially vapid and insignificant. They can not be otherwise, for individual thought must be stifled if the editor honestly represents community ownership and not himself." While there is some modicum of truth in this statement, and while it is, and always will be, difficult for the editor of a state journal to steer between the Scylla of radicalism and the Charybdis of conservatism, yet it will probably always be as easy to secure a competent editor for a publication devoted to the highest ideals of medicine as to secure one who will give his time for a publication devoted to the interests of a commercial owner

or its proprietary advertising pages. Certainly any state journal we have ever seen need not blush when compared with the "aire callicente" and "pure water" pages of the one from which the quotation has been made. When attention is focused on the advertising patronage of this "independent" journal, and we discover anascarein, antikammia, bromidia, sanmetto, California fig syrup, pep-to-mangen, mulyptol, prominently promulgated, its claims to a continuation of dignified age and reputable antecedents are quite amusing.

In conclusion, we gladly bear witness to the loyalty of the members of the Illinois State Medical Society to the editor of its official organ. The editor has always been conscious of the difficulty of representing this great body as it should be in the editorial columns of its journal. Notwithstanding this, there have been many gratifying evidences of confidence and support and few criticisms of the work done since THE JOURNAL has been established. The interest which has been displayed we hope has been due to the belief that an effort has been made to serve the best interests of the various components of the state society.

VITAL STATISTICS OF THE STATE OF ILLINOIS FOR THE YEAR 1907.

Below will be found a table giving the number of marriages, births and deaths reported by the county clerks of the 102 counties of the State of Illinois for the year 1907. These reports were sent in response to personal letters addressed to each clerk from the editorial office of the ILLINOIS MEDICAL JOURNAL. We believe this is the first time that a report from the entire state has ever been put into print except as reports were printed by the United States Census Bureau, and is, therefore, worthy of special remark. The law which requires ministers and civil officers to make returns of the marriages celebrated by them dates from the year 1874. We had always supposed that this law was strictly enforced—our statistics seem to indicate the contrary. The law requiring reports of births and deaths dates from July 1, 1877, when the first State Board of Health act became effective. The provisions of this law were never enforced.

The United States Census Bureau report of 1880, printed in the Fifth Annual Report of the State Board of Health of Illinois, appeared some time in the year 1883. Dr. Rauch prefaced this reprint with the following sentences: "Returns of deaths for 1881 have been received from many of the counties and are now being tabulated. Meanwhile the following mortality statistics for Illinois for the census year 1880, furnished in advanced sheets from the Census Office, are here presented as forming an appropriate starting point for a continuous series of vital statistics of the state."

Dr. Rauch, diplomatically, says nothing of the absolute failure of the law of 1877 to secure accurate returns from the physicians and midwives of the state. We believe that it was at that time quite certain that it would be impossible to secure any results from the law as it then

stood. This failure became more and more apparent as the years passed on, and finally in 1903 the present vital statistics act, by the efforts of the Legislative Committee of the State Society, was passed by the General Assembly, requiring the payment by the state, through the county clerks, of 25 cents fee for each return of birth, and forbidding the interment of a body anywhere in the state without a burial permit. From this date we must begin to reckon Illinois as a registration state, conforming to modern ideas concerning births and deaths within her borders. Just why no publication of vital statistics has been made we are unable to understand. If publication had been made each year since the law has been in force by the State Board of Health a better showing for 1907 would be possible.

We know too well that the figures here given are defective, and propose in this short review to consider some of the reasons for this defective table in order that means may be taken to improve them.

To begin with, Cook County, having almost two-fifths of the total population of the state, has never conformed to the state law by paying the fee authorized by this act to those making returns of the births. And, furthermore, the system of returns of births which had been built up by the Chicago Board of Health before the enactment of this law has been so demoralized by it that the Chicago board is no longer able to secure such accurate returns as were possible under the old conditions. It seems to be impossible for Cook County to secure funds enough to pay the large sum that would be required to conform to the state law. To remedy this Dr. Evans, present Commissioner of Health, has had introduced into the Senate of the Forty-fifth Assembly, by Mr. Ettelson, bill No. 612, an act amending the present law, providing, among other things:

"That in cities of 50,000 or more inhabitants, reports may be made to the Commissioner of Health instead of the County Clerk, if said Commissioner of Health so requests; and providing, further, that in cities of 100,000 or more inhabitants reports shall be made to the Commissioner of Health instead of to the County Clerk; and providing, further, that the Commissioner of Health shall render quarterly to the State Board of Health a full and complete report of all births reported to him during the preceding quarter; and providing, further, that in cities of 100,000 or more inhabitants the Commissioner of Health shall file all certificates or reports of death in his office, and shall on or before the tenth day of each month make a complete report to the State Board of Health at Springfield of all the deaths reported to him."

As to the wisdom of this amendment, it is not necessary to express an opinion. Suffice it to say, that under present condition the report of deaths in Cook County is altogether unsatisfactory, and this same remark may be applied to nearly every other county in the state. In many counties the clerks report that the physicians openly state that they do not propose to obey the law. This condition, it seems to us, is not at all creditable to our profession and can not be too strongly condemned. As one of the learned professions, it seems to us, the medical profession should not be derelict in rendering strict obedience to the

law, and more especially to that portion of the law requiring prompt returns of each birth, for which a fee of a not unreasonable amount is provided. It would seem that a practitioner disobeying the law should be brought up with a short turn and fined according to its provisions. If this were done a few more times a more creditable showing of its vital statistics would be made by the state and a more wholesome respect for the law would be secured which would be for the good of the commonwealth. The estimated mid-year population of Illinois for 1907 was 5,610,830. The total number of marriages returned is 58,731, a rate of 10.46 per 1,000. This seems to us ridiculously small when compared with the rate 17.87 per 1,000 prevailing as the mean average of twenty-seven years, from 1879 to 1905, in New Jersey. It is not probable that the marriage rate of Illinois is less than New Jersey, but according to the returns the rate per 1,000 is a little less than 60 per cent. of that of New Jersey. It, therefore, seems probable that no report has been made on from 30,000 to 35,000 marriages celebrated during the year 1907.

The number of births given is 85,506, and as 30 per 1,000 is a low average in several states, it would appear that there were more than 83,000 unregistered births in the State of Illinois during the year 1907. At least 20,000 births in Chicago are unregistered each year. The majority of those registered are sent by the midwives.

The number of deaths reported is 61,431, and as the death rate is probably not less than 15 per 1,000, 25,000 deaths remain unreported. Of course it has been impossible, under the circumstances, to learn the causes of death, the ages at death and the many other items that should accompany such a report.

We, therefore, send out this table, with a full knowledge of its incompleteness, in the hope of stimulating professional interest and co-operation in this important matter. With all its imperfections, we believe it will be read with great interest by every member of the State Society, and if we succeed in arousing our readers to the importance of this subject the work required to secure this table will not have been in vain.

TABLE SHOWING STATISTICS FOR 1907 OF THE MARRIAGES, BIRTHS AND DEATHS RECORDED IN THE OFFICES OF THE COUNTY CLERKS IN ILLINOIS.

Counties.	Marriages.	Births.	Deaths.
Adams	628	899	1,013
Alexander	408	234	260
Bond	149	133	369
Boone	196	233	111
Brown	103	222	92
Bureau	390	880	268
Calhoun	55	195	60
Carroll	122	341	163
Cass	131	360*	123
Champaign	439	1,172	342
Christian	234	627	181
Clark	267	580	162
Clay	185	469	177

* About.

Counties.	Marriages.	Births.	Deaths.
Clinton	177	592	168
Coles	392	723	378
Cook	26,724	25,702†	33,420‡
Crawford	219	535	217
Cumberland	136	377	*107
DeKalb	275	530	199
Dewitt	172	513	148
Douglas	164	443	107
Dupage	511	541	246
Edgar	409	533	214
Edwards	104	219	51
Effingham	208	452	130
Fayette	283	632	115
Ford	234	258	90
Franklin	246	271	75
Fulton	364	928	500
Gallatin	252	387	110
Greene	194	420	191
Grundy	140	570	206
Hamilton	185	496	85
Hancock	215	469	213
Hardin	103	115	48
Henderson	47	161	57
Henry	398	980	448
Iroquois	285	907	285
Jackson	458	1,000	410
Jasper	192	509	100
Jefferson	350	443	270
Jersey	112	283	120
Jo Daviess	220	286	116
Johnson	151	450	72
Kane	990	1,385	1,135
Kankakee	370	711	650
Kendall	65	196	88
Knox	467	754	412
Lake	766	683	461
LaSalle	789	556	401
Lawrence	228	558	162
Lee	249	460	214
Livingston	276	701	301
Logan	239	581	380
Macon	600	1,043	483
Macoupin	405	1,201	451
Madison	990	1,809	787
Marion	329	640	214
Marshall	113	336	136
Massac	286	258	120
Mason	152	351	138
McDonough	221	573	224
McHenry	263	520	190
McLean	712	1,418	639
Menard	98	298	117
Mercer	134	260	92
Monroe	109	211	96
Montgomery	310	590	220
Morgan	333	529	469
Moultrie	117	400	87
Ogle	92	668	266
Peoria	1,030	1,358	1,291
Perry	189	451	68
Piatt	87	421	133

† 55 per cent.

‡ The number of deaths in Cook County outside of Chicago is computed from returns of 1906.

Counties.	Marriages.	Births.	Deaths.
Pike	212	602	280
Pope	113	279	70
Pulaski	188	250	68
Putnam	46	133	41
Randolph	211	493	239
Riehlant	191	304	68
Rock Island	725	1,055	515
Saline	265	415	75
Sangamon	1,132	1,473	1,209
Schuyler	75	272	101
Scott	77	147	56
Shelby	280	664	250
Stark	69	215	84
St. Clair	1,724	1,558	1,453
Stephenson	433	686	375
Tazewell	259	651	254
Union	191	591	201
Vermilion	853	1,692	576
Wabash	211	312	98
Warren	234	378	171
Wayne	261	675	166
Washington	177	383	180
White	269	507	171
Whitesides	242	712	188
Will	820	1,318	585
Williamson	485	1,195	325
Winnebago	815	1,105	705
Woodford	132	451	159
Totals	58,826	85,506	61,705

BILLS PASSED BY THE LEGISLATURE.

The following bills of interest to physicians were passed by the "hangover" session of the Illinois Legislature, which began Oct. 8, 1907, and ended Tuesday, Feb. 4, 1908:

By Billings—Permitting the State Board of Health to admit to examination any student who has completed four years' attendance at an accredited medical school and to issue a temporary license for eighteen months.

By Glackin—Authorizing cities to establish tuberculous sanitariums.

By Church—Amending the law prohibiting the sale of cocaine.

By Smejkal—Making high-school diplomas satisfactory evidence of preliminary education in medical examinations.

By Ettelson—Authorizing cities to levy a wheel tax and prescribe the width of tires.

OFFICIAL ANNOUNCEMENT.

SPACE FOR EXHIBITS AT THE ANNUAL MEETING.

The Committee of Arrangements for the annual meeting of the State Society at Peoria, May 19, 20 and 21, 1908, announce that they are now ready to dispose of space for exhibits at this meeting, and that Dr. W. R. Allison, chairman of the committee, may be addressed at any time. First come, first served.

Correspondence.

EDITORIAL ON THE LINCOLN INSTITUTION COMMENDED.

GODFREY, MADISON COUNTY, ILL., Feb. 15, 1908.

EDITOR ILLINOIS MEDICAL JOURNAL.

My Dear Doctor: I was very much pleased with the, to me, eminently fair statement concerning conditions at the Lincoln institution contained in the recent ILLINOIS MEDICAL JOURNAL. It is just such an article as I would have written myself, if able to have said it as fairly. Dr. Hardt did not seek his appointment, and I have always felt that he would be a sacrifice to the vicious agencies of politics. I know well his struggles and they have been approached in the right spirit, and I am sure he has done well and the best he could and is deserving of great credit, for I honestly believe there is no more difficult position in Illinois to fill than is his under existing circumstances. I am absolutely sure no self-respecting physician would seek such a position, for it requires elements of character which a self-seeking man does not and never will possess to carry on the Lincoln institution properly as it is at present organized. It seemed to me the public have both seen and heard enough of Lincoln to heartily back any man of character who would stand in such a breach as Dr. Hardt has.

Criticism of such an institution is so easy and methods of improving its personnel and politics so hard, that I could not engage in such criticism. To my mind the readings of the present investigation must make our fair state appear wholly crude and incapable, not to say positively vicious, to all other well-organized commonwealths, and to me are positively disgusting, because I can't see any good purpose served. Our thousands of afflicted parents should be advised that their unfortunate children are not mistreated, ill-fed, burned, robbed, etc., but are a happy, well-cared-for company of unfortunates, as I know to be the fact, notwithstanding a few non-preventable accidents possibly due to individual carelessness, which do and always will occur under any human management, and each misfortune of this character renders others less likely to occur. Ten years of experience at Lincoln under four administrations and five at Pennsylvania State Institution for Feeble-minded Children, and an intimate knowledge of nearly all other state feeble-minded institutions, justify me in saying that the Lincoln institution needs but the elimination of politics and the unanimous support of the superintendent, who must be superintendent in fact as well as name, with power to govern according to the dictates of his judgment, as is done in all self-respecting eastern institutions, and in two years the Lincoln institution will stand where it should stand—near the head. It can not be near the head, however, on \$150 per capita, nor do I believe our citizens would be satisfied to have \$150 per year care given a dependent requiring education, training or, as in case of the lower grade, constant supervision.

Yours truly,

W. H. C. SMITH.

COUNTY AND DISTRICT SOCIETIES

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held Dec. 4, 1907.

A regular meeting was held Dec. 4, 1907, with the president, Dr. Henry B. Favill, in the chair. Dr. William L. Ballenger read a paper entitled "The Heath Mastoid Operation as a Substitute for the Radical Operation in Selected Cases," and exhibited patients. The paper was discussed by Drs. Joseph C. Beck, Norval H. Pierce, Victor C. Baccus, Frank Allport, Charles M. Robertson, and the discussion closed by Dr. Ballenger. Dr. Edwin W. Ryerson followed with a paper on "Bilateral Coxa Vera; Cuneiform Osteotomy," and presented a patient and a set of x-ray photographs. This paper was discussed by Drs. John L. Porter, Max Reichmann, and in closing by Dr. Ryerson. Dr. Wm. E. Gamble followed with a paper on "Diagnosis and Treatment of the Commoner Injuries to the Eye," which was discussed by Dr. L. A. Derdiger. Adjourned.

DISCUSSION ON THE PAPER OF DR. BALLENGER.*

Dr. Joseph C. Beck:—This procedure is so recent that any one who has not had an extensive experience in this line of work would hardly be authorized to make a statement, and I feel very much that way because I have only had experience with eleven cases operated by the Heath method, one of these cases having been brought here to-night and showing all the points that have been brought out by Dr. Ballenger in favor of the Heath method. The oldest patient is a child, 8 years of age, who had suppuration from both ears for three and a half years following scarlatina. This suppurative process resisted all local treatment, as well as other treatment, such as the removal of adenoids, the treatment of the nose, etc. In this case there were central perforations in both ears, a foul-smelling discharge, and the reduction of hearing to practically one-half. I performed the Heath operation, which has been described, on one ear one week, and one week subsequently did the same operation on the other ear. The first ear I operated on two and a half months later was dry, and gradually the tympanic membrane healed over, so that to-day there is in that part a yellowish-white tympanic scar, such as we find in any case after perforation heals. The other has not healed entirely. It is discharging. The hearing of the child, however, has increased right along for voice, and according to the best possible observation, Rinne has become positive. I demonstrated to Dr. Ballenger that the child could hear a whisper across the waiting-room, forty feet. Any of you can test that if you wish.

The condition of the other ten cases is not as good, and I am changing my opinion as to the ultimate outcome of these cases. This much I wish to say, however, that the operation is much safer and less dangerous than the radical operation. There is less danger of injuring the facial nerve and of having intracranial involvement in doing this operation, or any operation attacking the tegmen tympani. It can also be said that the suppurative process diminishes very rapidly after this operation. In one case I did a Heath operation, and two weeks later a radical operation, because I saw the uselessness of the former, but wanted to give it a chance. Hearing has improved in nearly all of the cases. The operation appeals to me very much if we can lay down the indications for its performance, but until we can do that we will work in the dark. The indications must be clearly defined. It is very essential to determine whether we have attie

* For text of paper see page 260.

disease or not. I think many of us feel ashamed in doing radical operations and removing ossicles that are absolutely normal. There may not be a sign of any necrosis of the ossicles, such as we are led to believe from the descriptions given in books.

Dr. Norval H. Pierce:—This important subject should be thoroughly threshed out. In fact, we have had some discussion on it before in the Chicago Laryngological and Otological Society. I, for one, wish to protest against this operation being called the Heath operation. It was done years ago, long before Heath operated and wrote on the subject, although Mr. Heath has introduced a number of fantastical canula in the treatment, and I think that is about the only thing he has added to the technic. The exact amount of good these canula do in the treatment is to my mind very doubtful. I have done this operation several times, and, without exception, there has been more or less disappointment after each one. I thought at first it was an operation which was especially indicated in cases of cholesteatoma, with a very small perforation high up, marginal; Bezold has recommended trial of the modified operation in just these cases; that is, where the tympanic membrane is preserved and where the epithelium of the external auditory canal, growing through the perforation and invading the antrum and mastoid cells, produces by pressure other necrosis enlargement of the cavity there which contains exfoliated epithelial cells undergoing fatty putrefaction. The most typical case of this kind I had was followed by the best results in my experience with this operation, and yet after a year's time the perforation still remains, and although the cavity in the mastoid process is entirely dry, still the cholesteatomatous masses still persist in the attic about the head of the malleus and incus. They can be washed out at any time. The hearing has greatly improved; the patient could hear a whisper in that ear about two feet distant before operation, and now he hears it something like twelve feet. Whether necrosis of the tegmen tympani can occur in this case, I am not sure, but the disease has not been eradicated as it would have been by a radical operation, where the contents of the cavum tympani had been removed. Broadly speaking, the operation is indicated in cases where there is necrosis in the mastoid cells, the preservation of the tympanic membrane, with no necrosis of the ossicles, or in the walls of the cavum. I would like some one to point out how in doing this operation we can determine that fact with adequate certainty. We open up the mastoid antrum and cells, and we eradicate every vestige of disease there, and then determine, if possible, by a fine probe, the condition of the ossicles, the walls of the labyrinth and tegmen. Personally, I think that is impossible to do in many cases without free access to the cavum. I believe that this operation has a limited field of application, but as a substitute for the complete radical operation it probably will be forgotten as it has been in the past. The modified radical operation has loomed up in various forms several times in otological literature, and then passed into innocuous desuetude each time, after a short period of resuscitation.

Dr. Frank Allport:—I presume I should not discuss this paper, as I have never performed a Heath operation. I had the pleasure last summer, however, of seeing Mr. Heath do some of this work, and on the whole was pleased with it and resolved to try it when I returned home. I therefore purchased all of his essential instruments, but have never used them, being influenced perhaps by the fact that the London aurists are quite generally opposed to the operation. This is a very poor reason, however, for it frequently happens that for one reason or another a "prophet is without honor in his own country." I presume my real reason for not trying the operation is a preconceived and perhaps old-fashioned idea that it is unsurgical to leave a necrosed and infected tympanic cavity behind me when I have finished operating, and this is what Heath does, notwithstanding the fact that he writes a good deal about "selecting" his cases. Nevertheless, I am not opposed to the operation even though I have never been able to bring myself to perform it, and inasmuch as it is not dangerous and is more conservative than the radical operation, I believe it should be tried thoroughly and its real place of usefulness accurately established, and I desire to commend and thank

Dr. Ballenger, Dr. Beck and others who are earnestly and honestly endeavoring to solve the problem. The Heath operation presents several points of value which must not be overlooked by those who desire to know the truth. In the first place, there is certainly less danger of facial paralysis than when the radical operation is performed, although this danger is rapidly disappearing under improved technique. Then the semicircular canals are almost certain to escape injury, and besides this a Heath operation can always, subsequently, be easily converted into a radical operation should such a procedure prove to be desirable. I do not think, however, that this should be attempted (as has been suggested) as a comparatively trivial affair without an anesthetic, as one of the most important steps of the radical operation is the thorough inspection and cleansing of the attic, and this and other necessary procedures can only be done under a general anesthetic and a complete reopening of the mastoid wound. As Heath does not enter the tympanic cavity and seeks to preserve the original drum-head (if there is any) in his operation, the function of hearing is less interfered with than in the radical mastoid operation where the malleus and incus are removed and the tympanic space curetted and cleansed. Nevertheless, I am bound to say that hearing is either uninjured or improved in a very large majority of cases where the radical operation has been properly performed and many cases could be shown where this operation has been performed on both sides, several years ago, where ordinary conversation can be heard with perfect ease and facility. Diseased ossicles and tympani filled with bands of adhesive inflammation and cholesteatomatous masses, are not aids to hearing, but quite the reverse, and hearing is usually improved by their removal. I can not agree with Dr. Pierce when he refers to the intermittent history of the Heath operation. He claims that this operation has been exploited from time to time, enjoyed a brief period of popularity and then disappeared from public view. He claims that the operation will soon be abandoned and forgotten. Although somewhat familiar with mastoid literature, I am at a loss to understand just what Dr. Pierce refers to, unless it may be the old Schwartze operation, which certainly can hardly be twisted into a marked resemblance to the Heath operation, as performed by Mr. Heath to-day. It would be interesting if Dr. Pierce would favor us with the literary data upon which he bases his assertion, for if this identical operation has been several times exploited in the past and always discarded as worthless, it will, of course, relieve investigating aural surgeons of to-day from the necessity of again passing through the struggle of ascertaining whether the procedure is worth while or not. Not, however, being at present familiar with the literature hinted at by Dr. Pierce, I must draw my conclusions from other sources, and personally I believe that while the Heath operation is not as useful as claimed by Heath, it is still something that must be reckoned with, and that this procedure, or some modification of it, may have a permanent place in aural surgery. A most important point is the proper and suitable selection of cases for the operation, and I confess that I have so far been unable to solve this problem. Speaking broadly, a case of chronic purulent otorrhea, where the necrosis is practically confined to the antrum, and possibly the cells, would certainly be a case where the Heath operation was indicated, but I can scarcely conceive of a case of chronic purulent otorrhea where the attic is not a cess-pool of infection. I, too, have seen cases as mentioned by Dr. Beck where the ossicles were healthy in appearance and where it seemed a shame to sacrifice them, but I have always found the attic diseased, and have felt that this justified the seeming sacrifice. Heath operates on such cases according to his method and leaves necrosis (perhaps of the tegmen), granulations, etc., and trusts to drainage, etc., to effect a cure. I have never been able to see my way clear to do the same, therefore, have not as yet made the operation. Nevertheless, I am willing to be convinced and am glad that others are trying the experiment, and respect them for their honest efforts and wish them God-speed.

Dr. Charles M. Robertson:—Two or three of the speakers mentioned cases of cholesteatoma. Any one who has a case of cholesteatoma should do the radical operation, as it would be a contraindication to the Heath operation.

I had a case yesterday, in which I intended to do a modified Heath operation, but found the attic so full of cholesteatomatous masses that I found it necessary to do a radical operation. If I had done a Heath operation in that case, I would have an experience similar to the case reported by Dr. Pierce. I would just as soon make a perforation in the drum membrane as not, because I am not so fearful of injuring it as some operators are. I believe drum membranes heal almost as well as the skin, so that if I want to wash out the middle ear I make my incision in the drum membrane and wash it out in that way. In one case in which there was very little or no discharge from the middle ear, there was a large amount of pus in the additus ad antrum, and antrum of the mastoid cells, as well as granulations and broken-down bone in the mastoid process itself covering the lateral sinus. That was a true case for the Heath operation. The reason I did not do a radical operation was that the hearing tests for tuning fork and voice were good. It seems to me, this is the only way in which we can tell when and when not to do a Heath operation. If the attic shows any signs of disease of the ossicles or walls of the attic, no one would think of not doing a radical operation, although the patient might not hear as well afterwards. The bearing following the radical operation, in my opinion, is not so much from the displacement of the stapes as it is from the thickening of the epidermis after the middle ear becomes lined with the epithelial tissue, as it becomes thickened over the oval window and retards wave sounds.

Dr. Ballenger (closing the discussion):—Dr. Allport has very well said what I might have attempted to say in the paper, in reply to Dr. Pierce's facetious remarks concerning Heath's special instruments—more facetious than correct, I fear.

I have kept myself pretty well informed with reference to otological literature, and I must say, I have never yet seen the operation described except by Mr. Heath. We have all done incomplete radical operations from time to time, and we may have called them the Heath operation, but this is not the Heath operation. The Heath operation consists in the steps I have named, and the additional technic I have mentioned, and he insists on this technic as an essential part of the operation. Notwithstanding what Dr. Pierce has said about the special canulas, they are valuable aids in getting good results. But one will not get good results from the Heath operation any more than he will from the radical operation if he does not do good plastic surgery with the cutaneous portion of meatus. Mr. Ballance claims to get epidermization after the radical operation in from four to eight weeks, because he uses Thiersch grafts. I have obtained good results in as short a time as he has, without using Thiersch grafts, chiefly because I use plastic flaps. I use the Ballance flap, but I do not utilize it in the way he does, and that is one reason why I get rapid healing in the radical operation, namely, because I utilize the cutaneous meatal flaps to line the mastoid wound.

In my remarks I think I pointed out that one of the contraindications to the Heath operation was cholesteatoma. I agree with Dr. Allport that this should be considered a contraindication to the Heath operation, and that is one reason why Dr. Pierce has not been pleased with his results.

Dr. Pierce:—In just one case.

Dr. Ballenger:—While I do not know the exact indications for the Heath operation. Notwithstanding what Dr. Pierce has said about the special canulas, one-half of the cases we have heretofore thought only amenable to the radical operation. Mr. Heath believes it is applicable in perhaps 95 per cent. of the cases, but I think he is mistaken. I think it will be found to be indicated, after the lapse of ten years' experience, in probably one-half of the cases which we have heretofore considered amenable to the radical operation.

Dr. Allport says that he is prejudiced against the operation because of preconceived notions. And so was I. Fortunately, in studying the effect of drainage upon infected cavities, I found that good drainage went a long way towards the cure of an infected cavity. When I studied the principles of the Heath operation and saw that I could establish good drainage in all parts by his method, without interfering with the contents of the middle ear, I said to myself, at once, here is a method I am going to adopt in selected cases of chronic mastoiditis. I never

dreamed that the radical operation would be supplanted by another operation until I read the description of Heath's cases. So I believe we have in the Heath operation one that is going to be of inestimable value to patients in that it saves the hearing. If, after trying the Heath operation, you wish to convert it into a radical, you can do so in a few minutes without general anesthesia. You have a wide-open canal; the parts are visible, and all you have to do is to inject a little cocaine beneath the mucous membrane, completely remove the posterior wall, the drumhead, the malleus and incus, and do an ossiculectomy. It is really a radical operation without general anesthesia; hence it is easy to convert the Heath operation into a radical one if indications for so doing should arise.

Dr. Edwin W. Ryerson read a paper on Bilateral Coxa Vara Cuneiform Osteotomy, presenting a patient and x-ray photograph.

DISCUSSION.

Dr. John L. Porter:—I am very glad to have seen the result that Dr. Ryerson has obtained in this case, because, although coxa vara is not so very uncommon—I suppose I see five or six cases a year—the bilateral cases are very much more rare than the unilateral cases. I have seen only two cases of bilateral coxa vara in the last four or five years, so that the opportunity to do the operation which Dr. Ryerson has done does not present itself very often, and he is to be congratulated not only on securing such an excellent result, but upon having the opportunity to secure it.

As Dr. Ryerson has said, the idea was advanced for several years that coxa vara was a distinct disease affecting the hip joint. But coxa vara is a descriptive name of a deformity, and it may be due to various causes. Inability to abduct the leg is the chief difficulty. The leg is not only shortened, but it is also adducted, and most of these patients walk with the pelvis tilted up to one side; they walk on the toes this way (indicating), because adduction is so great. The typical walking gait for a case of severe bilateral coxa vara is what is known as scissors progression; they have to walk this way (illustrating a scissor-like locomotion). The legs are so badly adducted that the patient can not get the knees past each other. This boy had not reached as advanced a stage as that.

The cases I have seen have impressed me that, beyond the rachitic type, which we see chiefly in children, the condition is due principally to two things: (1) A disparity between the supporting power of the neck of the femur, placed, as it is, at an angle with the shaft, and the patient's weight; (2) to traumatism. The majority of cases we see are in adolescents, mostly boys, and it is surprising how many of them are very fat. I remember distinctly two boys and one girl, about 18 years of age, all of them overgrown and fat. The weight was so much in excess of the strength of the bones that they had to bend, and in some cases the head of the femur slipped—the epiphyses gave way. This slipping of the epiphysis may also be, but is not always, due to traumatism.

In the unilateral, as well as bilateral, cases the operation which Dr. Ryerson has described, and which was suggested by Whitman, and done by him a few times only, gives the best results. But I believe one thing should be considered, namely, it is not a good plan to do the operation while there is progressive weakness in the bone, or if the deformity has reached such a degree that, in spite of operation, the neck of the femur will keep on bending. The patient should be kept on his back from six months to a year or more, as the deformity may grow worse.

Dr. Max Reichmann:—I want to say a word or two with reference to Roentgenograms in these cases of small children. In a recently published article by Försterling (Hanover) the author describes a series of experiments made upon litters of different animals with the Roentgen rays. One-half of the litter was exposed to the rays, the other kept away from them; in every instance the young animals exposed either succumbed to the effect of the rays or showed marked tardiness in development in comparison to the animals not exposed.

From these experiments Försterling draws the conclusion, that, in exposing

young children to the Roentgen rays, we must be very careful, and I, therefore, make it a rule to make the time of exposure very short, say from 2 to 5 seconds, and if the negatives prove to be too flat I improve them easily by intensification.

This rule was applied in the very interesting case Dr. Ryerson has shown us to-night.

Dr. Ryerson (closing the discussion):—These pictures which some of you looked at do not do justice to the beautiful plates which Dr. Reichmann has made. The prints were made by unskilful photographers and are not good ones.

I agree with what Dr. Porter has said about not operating when there is progressive disease in the neck of the femur, as that is of the greatest importance. We should never operate on a rachitic case until the rickets has disappeared. It would be as much a mistake, as is sometimes made, in operating on knock-knees and bow-legs in children whose rickets is progressive. Sometimes, however, we have to do it, but it is better not to do so if we can avoid it. In a case where the epiphysis has slipped underneath, the operation of nailing the epiphysis, which has been done by a Norwegian twenty-five times, in fractures, should be undertaken. That, it appears to me, is a feasible thing to do, to freshen the edges of the epiphysis and neck and bring them together, using a good-sized wire nail for the epiphysis and leaving the nail there for five weeks, then taking it out. I have one case in which I am considering the feasibility of this operation.

DISCUSSION ON THE PAPER OF DR. GAMBLE.*

Dr. Aria Louis Derdiger:—In connection with Dr. Gamble's paper, I wish to refer particularly to the last part of it in reference to foreign bodies that penetrate the eye and their treatment. For many years I have been engaged in the collection of the histories of a large number of cases of every form of injury to the eye that may have caused sympathetic ophthalmia, some of these cases having been treated during my attendance at the infirmaries and hospitals in Chicago, Philadelphia and New York. I would briefly enumerate the few points I wish to bring out in order to suggest the causes of sympathetic ophthalmia, and under that head we will divide them into the indirect and direct causes.

Under the head of indirect causes: 1. We want more improved and better constructed machinery in factories and work shops to prevent accidents. 2. Centrally built and adequately equipped and better illuminated factories, work-shops and mills to prevent these accidents. 3. We want a compulsory employment board, so that all persons shall be protected by the associations that they belong to or work for. 4. We want, as specialists, to make a more prompt search for and amelioration of the original conditions that cause these accidents. 5. We want a better personal condition, or, in other words, we want to look after the personal condition of the patient when he or she presents herself for an examination or treatment of an injury of the eye. In connection with that, we want to take notice of the nationality, sex, personal hygiene, etc. It makes quite a difference in the treatment of different patients. 6. We want better hospital equipments for immediate attention to first aid patients and measures suitable for each case. 7. A higher grade of skill on the part of those who have charge of the case, with modern instruments at hand, to be used in the briefest period of time from the time the injury is received.

Under the head of direct causes we may say: 1. That there should be more prolonged treatment by the oculist, either in private practice or in hospital service, before discharging a patient. We want to pay some attention to the patient's diet during the time of treatment, or when the eye is still inflamed. 2. We want better facilities for these cases. They should be kept a longer time in the hospital under the observation of the oculist. 3. We want better preparation of the patient for aseptic operative or special therapeutic or remedial measures. 4. The early removal of shattered and useless eyeballs of dangerous types by the simplest and least complicated methods. 5. The prompt removal, whenever possible, of any foreign body from the interior of the eyeball by the latest and best method. 6. Increased certainty in intelligent action by the early employment, if

* For text of paper see page 303.

necessary, of one of the most exact methods of *x-ray* studies in this country. In connection with that, I wish to mention that, while in New York this summer, at the New York Eye and Ear Infirmary, Dr. Dixon there had certain cases in which foreign bodies, such as pieces of steel and copper, penetrated the eyeball, and he located them with the utmost precision, and a flap was made on the eyeball and the foreign body was invariably removed. The cases, as a rule, made good recoveries. It was the nicest work I have seen done with the *x-ray*. Dr. Dixon is to be congratulated on being so expert with the *x-ray*. I have no doubt there are some gentlemen in Chicago who are proficient in that work, but I have not been so fortunate as to see such work done here.

Regular Meeting Dec. 11, 1907.

A regular meeting was held Dec. 11, 1907, with Dr. Richard Haley, President of the Stock Yards Branch of the Chicago Medical Society, in the chair. The subject for the evening was a symposium on diabetes. Papers were read as follows: Drugs in Diabetes, by Dr. Arthur R. Elliott;* The Oatmeal Treatment of Diabetes, by Dr. James B. Herriek; Diabetic Coma, by Dr. Alfred C. Croftan; The Value of Ammonia Estimation in Diabetes, by Dr. Bertram W. Sippy. The symposium was discussed by Dr. Ralph W. Webster and, in closing, by Dr. Sippy. Adjourned.

DIABETIC COMA.

ALFRED C. CROFTAN, M.D., CHICAGO.

(Author's Abstract.)

Whereas, the fundamental causes of diabetic coma are still far from clear and, whereas, the treatment of the fully established attack of diabetic coma constitutes one of the most unsatisfactory therapeutic tasks, we know enough of the factors that determine coma in diabetes to enable us to institute in many cases an intelligent prophylaxis. That we are dealing with a toxemia is clear, but the exact character of the poisons has not yet been established. A great number of substances that are found in the blood and urine during diabetic coma have been accused of causing the syndrome, but none of them have so far completely vindicated their claims to specificity. It is my belief that the true poison or group of poisons that produce the attack of diabetic coma have not yet been identified. This is due to the fact that we look for these poisons among the simple, comparatively highly oxidized intermediary or terminal bodies that are circulating in the blood and are excreted in the urine in severe diabetes. When we remember that less highly oxidized, less degraded products of intermediary metabolism than the above, many of them still maintaining an albuminoid character, may be present in the excreta or in the blood of diabetes; when we acknowledge, as we certainly are forced to, that, owing to the erudition of our present methods of chemical analysis, these must altogether evade our detection; when we consider, furthermore, that the closer we remain to the albumin molecule the more toxic do the degradation products become (witness ptomaines, bacterial toxins, ptoma-toxins, etc.), it seems quite probable that such bodies, even though they be present in the most minute quantities, might very well produce most fulminating effects and, in reality, be the cause of diabetic coma.

For the present, in the obscurity of this great ignorance rather than in the light of the little knowledge we possess, we must unfortunately content ourselves with interpreting the rôle of the much more simple bodies that we can isolate and identify and with attempting to counteract whatever deleterious effects these ingredients may exercise on the organism whenever they circulate in abnormal quantities during and preceding diabetic coma.

The most interesting representatives of this latter category are the members of the acetone group, namely, beta-oxybutyric acid, diacetic acid, and acetone. Neither of them, as indicated above, possesses any specific toxic action that in its effects even remotely simulates diabetic coma. The claim that they do produce this syndrome, it is true, has been repeatedly made, but as repeatedly refuted; it

* For text of paper see page 312.

appears, when all the evidence is analyzed, that they act in a toxic manner merely on account of their acid character. One must imagine that, owing to their acidity, they withdraw alkali, that is, potassium, sodium, calcium and magnesium ions from the cells, and thus interfere with the normal function of the latter; for proper, *seil*, normal protoplasmic activity is directly dependent upon the presence of these basic ions within the cell and to some extent in the circulating media in which the cells are bathed.

In order to counteract this reduction of tissue alkalinity or, as it might also be expressed, this increased tissue acidity, *seil*, acidosis, the organism advances a very efficient means of defense, *viz.*: the outpouring of ammonia radicals that Dr. Sippy will speak of in detail presently. This operates as follows: As soon as an abnormal quantity of acid bodies circulates, the body attempts a neutralization of the latter by ammonia. These ammonia radicals, as is well known, are a normal disassimilation product of the albumins and are constantly found in all the organs and in the circulating blood. Normally, this ammonia is, in large part, converted into urea in the liver and eliminated as such. In the presence of acidosis, however, the ammonia is hurled against the offending acid radicals, clinches them tightly and drags them promptly out of the body in the form of ammonia salts; hence, we so frequently find an increased ammonia excretion in diabetes; in fact, the figures for the urinary ammonia may be considered in a broad sense an index of the degree of acidosis. With very much ammonia withdrawn from the circulation, the formation of urea must, of course, decrease, inasmuch as ammonia is the mother substance of much of the urea; hence, we commonly find in the urine, together with an increased ammonia excretion, a corresponding decrease of urea.

I can not suppress the conviction that the acidosis with the resulting increase in the ammonia excretion is, however, only a part phenomenon of an abnormal albumin disassimilation resulting from causes in diabetes that we do not yet understand; that, therefore, the acidosis is an important symptom and a contributory cause in the production of some of the most important signs of coma, but not the most serious nor the real determining cause; for we frequently see degrees of acidosis that are in excess of those witnessed in fatal cases of coma that nevertheless produce none of the characteristic symptoms of this disorder; we not infrequently see patients living for months, often years, with such pronounced degrees of acidosis without ever developing coma. On the other hand, one quite often sees most fulminating and rapidly fatal diabetic coma with relatively only slight degrees of acidosis.

In interpreting the formation of abnormal quantities of the acetone bodies in diabetes, it must never be forgotten that certain members of this group are in all probability normal products of intermediary metabolism, but that they, as soon as formed, are so rapidly destroyed by further oxidation in the healthy organism that they evade detection; this applies especially to the lower members of the group, namely, beta-oxybutyric and diacetic acids, that are promptly oxidized to acetone whenever they are introduced into the circulation.

In the formation of excessive quantities of the acetone bodies the food factor is important, for it is possible in most normal individuals to produce an increased acetone excretion by completely withdrawing carbohydrates from the food; in other words, by placing such an individual on a so-called diabetic diet. On the other hand, it is very frequently possible to cause the disappearance of any acetone that may be present in individuals, normal or diabetic, who are living on a meat-fat or carbohydrate-free diet, by the addition to the food of even small quantities of carbohydrate material. This point is frequently overlooked, and from the prophylactic standpoint it is very important; for not only does it appear that some carbohydrate material is requisite to prevent the formation of abnormal quantities of these acid products of metabolism, but it also seems that the degradation of the proteid molecule does not proceed along normal channels (and hence may lead to toxic albuminoids) if carbohydrate (that is, in its ultimate consequences, circulating dextrose), is withheld for long periods of time; or, if, as in diabetes, the organism has lost its power to a great extent of utilizing the carbo-

hydrate, i. e., dextrose, pabulum that is offered to it in the blood. That the latter defect, which is the most characteristic element in diabetes, is frequently enforced by the complete withdrawal of carbohydrates, especially in individuals who, like most diabetics, still possess the power, though to a reduced and limited degree, of utilizing some of the carbohydrate that is ingested, is quite apparent.

Consequently this error should be avoided in feeding diabetics; the exact boundary of tolerance for carbohydrates should be determined according to the customary method in every case of the milder degrees and an appropriate amount of carbohydrate material administered. In very severe types in which the boundary of tolerance is minus, some carbohydrate should be sought for that these individuals can assimilate. A search for such a carbohydrate is frequently, though unfortunately not always, rewarded by success, and it seems a peculiar fact that often a single carbohydrate given for days to the exclusion of any other is capable of combustion in the diabetic organism, and hence may counteract acidosis, when a combination of different carbohydrates fails to produce this effect. Basing on this fact, a variety of methods of feeding, coarsely dignified by the name of "cures," have been formulated, among them the "potato cure," the "rice cure," and, more recently, "the oatmeal cure" that Dr. Herrick has just described to you so clearly.

If the food factor, the principles of which have been briefly delineated, is carefully considered in feeding all diabetics, acidosis and coma can often be forestalled. Unfortunately not in all cases, because there are certain unfortunate exceptions that rapidly progress from bad to worse uninfluenced by any treatment that can be instituted. These individuals all fall victim to coma within a short time after the onset of the disease, and no power that we know of to-day can prevent this fatal issue. In the very mild cases, provided they are not injudiciously fed, which often amounts to being carefully starved to death, the danger of coma is slight. In cases of medium severity, great care must be exercised that they are not allowed to lapse into cases of greater severity, but rather are converted into milder degrees of diabetes. In the very severe cases, finally, the food factor is particularly important, and here some of the best results, as far as the prophylaxis of coma are concerned, can be obtained.

In regard to the use of drugs, I will say nothing in this place, because the subject has already been so conservatively discussed by Dr. Elliott. That every diabetic should be given the benefit of a persistent alkali therapy by the continued use of large doses of sodium bicarbonate, certain calcium and magnesium salts, need not be repeated. The effect of these alkalis is purely symptomatic. They act as antacids, combine with the circulating abnormal acids, save the alkali content of the cell, and thus relieve the organism of the necessity of sacrificing valuable nitrogen in the form of ammonia compounds toward disintoxicating these acid bodies and preventing abnormal acidosis.

100 State Street.

DISCUSSION OF THE SYMPOSIUM ON DIABETES.

Dr. Ralph W. Webster:—There are a few points which have not been brought out in this discussion, which I would like to mention briefly, as well as to take mild exception to a few statements made in some of the papers.

The first point relates to the pathogenesis of diabetes. During this year there has been some very interesting and probably very important work done upon this subject which I have not heard mentioned this evening. I refer to the work of Pflüger done primarily on frogs, and then, supplementing these researches, by work on dogs. He has shown that, by severing the connection between the duodenum and pancreas, he can produce diabetes of a type which is more severe than that following the removal of the pancreas. This has not been applied, so far as I am aware, to work on man; but when we consider the work mentioned by Starling upon secretin, we can readily see exactly wherein this influence consists, namely, the influence of secretin upon the pancreatic activity. We know, beyond any argument, that in diabetes the oxidative processes can not produce this condition, for when the estimation of the respiratory quotient, etc., is made

these processes show a normal result. We, therefore, must believe, and take it for granted as an accepted fact, that the oxidative processes are not reduced. The importance of pancreatic activity in diabetes is based upon the presence of an internal secretion of the pancreas which affects the metabolism entirely through a hypothetical substance known as an oxidase. It is entirely possible that the effect of secretin upon the oxidation through the pancreas can produce a result which would not normally obtain were the connection between duodenum and pancreas severed. Be that as it may, any assumption is at present hypothetical. This point has not been mentioned, and I will not go further into it now as the hour is late.

Another point which Dr. Croftan did not mention in his discussion of diabetic coma, and which may bear on the pathogenesis, is the influence of the carbohydrates in reducing acetoneuria, and in diminishing glycosuria. This would be more particularly applicable to the oatmeal diet. We all know that carbohydrates as well as fats act as spacers of protein. In no other disease of metabolism do we have such marked protein disintegration as in diabetes. Therefore, we may assume that the carbohydrates taken into the system are used up and the protein disintegration lessened. I simply mention that point as a hypothesis, not as a conclusion.

I would second Dr. Herriek's remarks regarding the oatmeal cure, in so far as he has mentioned the selective activity of the cases. It was my good fortune in 1903 to work with Professor von Noorden while he was developing this cure, and I know with what care he selected and rejected his cases for special treatment. Dr. Herriek has mentioned all of the points which I have heard dwelt upon so frequently by von Noorden, namely, that it is not a cure-all; it can not be used in all cases, but each case must be a law unto itself in the treatment by the oatmeal cure.

Regarding the value of ammonia estimations, I take absolutely no exception to the statements made this evening beyond an objection to the method which has been advocated by Dr. Sippy for use in determining ammonia. Schlösing's method has been known for a long time and has proven inadequate in giving absolutely accurate results. The time required, as Dr. Sippy has said, is from four to five days. The ammonia not given off by this method varies from 10 to 20 per cent. In other words, there may be 10 or 20 per cent. error, even at the end of four or five days. If such a thing is possible, and if one by experimenting proves this point, that 10 or 20 per cent. may remain or is not given off at room temperature, we should reject Schlösing's method as a routine procedure, because, first, it takes five days, and in cases of impending coma we can not wait that long; second, the results are not as accurate as they should be. During the last year a method has been devised and advocated which will permit the determination of ammonia within one hour and a half, giving nearly 100 per cent. of accuracy. This method can be used in any office where water or air pressure is present, and it will enable a practitioner to determine without difficulty to himself the absolute amount of ammonia present. The machine will work while you wait, and you can make a much more accurate estimation with it than with Schlösing's method. I will not go into the details of the method, as it would take too long to do so; but it simply consists in forcing air through cylinders which contain alkalized urine and driving the ammonia given off into a normal acid solution which can be titrated in the same way as mentioned by Dr. Sippy. The results are given in an hour and a half, and are absolutely accurate within one hundredth of 1 per cent.

Dr. Sippy (closing the discussion):—I have but a few words to say. I can not imagine any practitioner who is so stupid in the management of a case of diabetes in which there is danger of diabetic coma that he would estimate the ammonia in the urine and wait for five days before instituting the best methods of counteracting the diabetic process. As I said in my paper, the carbohydrates can be given in large quantities and sodium bicarbonate, and a series of estimations of the ammonia should be taken. Of course, I have known for a number of years that Schlösing's method has been rapped at, and that newer methods

have been perfected, yet they nearly all require complicated apparatus. The apparatus I have shown and demonstrated to you to-night is not complicated, but it is within the reach of every practitioner and should be used. The vast majority of the estimations of ammonia in diabetes have been made with this same apparatus. It can be found in all the laboratories of the world where these estimations are made. One sees it in the laboratories in Berlin and other medical centers, and, as I said, for clinical purposes, it is reliable and accurate, and requires such a short time for its use and is so easy to work, that it is of distinct value. If there is a modern apparatus that is uncomplicated, it should be used; but I urge you not to wait for the estimation of ammonia in these cases, particularly those that require any length of time to estimate, but go ahead with your treatment, and make your ammonia estimations afterwards.

CHICAGO MEDICAL SOCIETY—CHICAGO PATHOLOGICAL SOCIETY.

A joint meeting of the Chicago Medical Society and the Chicago Pathological Society was held Dec. 18, 1907, with Dr. H. Gideon Wells in the chair. Dr. Theobald Smith of Boston, Mass., read a paper on "Some Neglected Facts in the Biology of the Tetanus Bacillus; Their Bearing on the Safety of the So-Called Biological Products." There was no discussion. Adjourned.

EVANSTON BRANCH CHICAGO MEDICAL SOCIETY.

Regular Meeting, Dec. 26, 1907.

The regular monthly meeting was held in the Avenue House on Tuesday, Dec. 26, at 8:30 p. m. Prof. E. C. Dudley of Northwestern University gave a lantern slide demonstration of "Operations on the Perineum." After adjournment, lunch was served and a half hour spent in genial social intercourse.

Regular Meeting, Jan. 30, 1908.

The regular monthly meeting of the Evanston Branch was held in the lecture room of the new Public Library on Tuesday, Jan. 30, at 8:30 p. m. A scientific program was carried out, as follows: "Some Experiences in Infant Feeding," by C. W. East, M.D.; "General Indications for Surgical Interference," by Wm. R. Parkes, M.D.

SOME EXPERIENCES IN INFANT FEEDING.

C. W. EAST, M.D., EVANSTON.

Horace Greeley once wrote a book on "What I Know About Farming."

This is seemingly an egotistical title, but was really a modest one. Mr. Greeley was a believer in what we now call the "simple life," which he called "the natural life." He believed in the avocation, as well as the vocation, and he endeavored to induce as many as possible to live near to Nature, those who could, all of the time—and others a part of the time. Hence he was an amateur farmer, and was willing to give others the result of his experiences. In this spirit I present this paper, not as an expert or authority, but as one who, with you, meets the question of "What to feed the baby," almost daily in conditions ranging from relative health to acute gastrointestinal disease and to diseases of malnutrition.

It has been positively stated by good observers that the percentage of women willing and able to nurse their children among the better classes in America is increasing. This is an encouraging fact. Yet notwithstanding the fact a considerable proportion of babies need at some time from birth to the fifteenth or eighteenth month help in the matter of diet. This will always be so, as children will continue to be born of mothers incapacitated for nursing by reason of inheritance or disease. The time during which mothers producing suitable milk are able to continue lactation is variable. There is always the period following weaning to be considered in the interest of the child.

It is also true that wet-nursing is a practical impossibility. It is very rarely

that a suitable wet-nurse can be secured for service in the families seen by those of us here present. Furthermore, the proprietary manufacturers of baby foods have not succeeded in making even a working substitute for the maternal supply. It is my experience that, with minor exceptions, the use of the proprietary baby foods is accompanied with the same uncertainty and disappointment that reliance on proprietary drug remedies is in general therapy. Indeed, the majority of children coming into our hands for dietary treatment have passed through an experience of proprietary feeding to their detriment. I do not deery the use of these foods in appropriate conditions, but find these conditions are occasional and minor. Neither does the problem in my experience settle itself down absolutely to some modification of fresh cow's milk. While fresh cow's milk must remain our chief reliance and must be the goal toward which we work in all our cases, yet the great question is one of food for the baby, and the exigencies are frequently great. A baby must have food every two and a half to four hours and we can not proceed according to hard and fast rule in adopting nourishment to our little patients. It occasionally happens that a child is totally unable to take fresh cow's milk in any modification, and this inability may continue during the whole period the patient is dependent upon liquid food; that is, till the feeding problem has been practically solved and we are no longer called upon for advice. I would furthermore say that, while I have respect always to the percentage composition of food for qualitative values and find the calorie method of assistance in fixing the quantitative value, these are only helps and are not the solution of the problem.

I find that my cases fall naturally into four groups, for which I do not claim a standard clinical classification.

Group 1 consists of those cases where the maternal supply has been practically absent or the quantity so small that the child can not be nourished on it. The causes for this condition in the mother need not be largely discussed. Acute or chronic disease of the mother, trauma during labor and congenital insufficiency occasionally render it impossible for the mother to nurse the baby. Not infrequently a well-developed and healthy woman will be found who can not produce a sufficient supply for the child. Where there are no contraindications every effort should be made to produce a sufficient supply, and close watch should be kept during the puerperium till this point is settled. Three or four routine post-partum calls are not sufficient to determine this point. Having achieved conditions approximating surgical cleanliness during labor to make a few calls post-partum to be on guard against developing sepsis is a very minor consideration. After the uterus is empty and well contracted and the perineum ascertained to be intact, the great consideration for the physician is the nutrition of the child.

I find babies in this group most easily adjusted to artificial feeding. Of course, all depends upon careful watching of the maternal capacity for nursing during the first week. The baby, if manifestly hungry during the second day, should receive a dilution of milk sugar, one-half ounce to the pint of boiled water. According to the mother's capacity for nursing, this should continue during the third day. After this, supplemental food may consist of condensed milk and cereal water; barley water is my choice, $\frac{1}{2}$ to 1 dram condensed milk to 2 ounces water. I use the condensed milk first, because it is more easily digested than fresh milk in any dilution. When the stools of the child are natural on the fifth or sixth day, if supplemental feeding must continue, cream is added, cautiously, to one or two feedings daily. As the child gains in weight, gradually whole milk or cream is added to our cereal-condensed milk solution till the condensed milk is entirely withdrawn and the child is able to digest a modified fresh milk diet. In this way I believe less trouble will be experienced than if the fresh milk modified is attempted at first.

Group 2 consists of those cases which have had to be taken from the breast after several weeks' nursing or attempted nursing. There are two classes in this group, those for whom the maternal supply has been sufficient and those for whom it has not. The former come to us in good condition and the latter do not. The first class have not suffered derangement of digestion, and the latter have,

Yet it is quite as great a problem to make a radical change in diet for the first as it is to adjust a diet to the second. With the first, a cereal water with sugar and cream added is the usual method of procedure. I usually attempt a relatively high sugar percentage, as they have been accustomed to digest sugar, and milk sugar is added to the cereal water to make the percentage of carbohydrate 6 per cent. The proteid is started at about .75 per cent. and the fat at about 2 per cent. These low percentages of proteids or fats are usually taken with comfort. If they are not, I do not experiment with other dilutions of fresh cow's milk, but with the cereal water as a basis introduce either condensed milk or proteids or fats in the form of egg albumin and cod liver oil. As soon as the child is digesting its food satisfactorily, cow's milk additions may be continuously tried in small doses at intervals, gradually working it up to a modified cow's milk diet.

The child with deranged digestion because of insufficient or unsuitable maternal supply is kept on cereal gruel until evidences of gastrointestinal irritation are past. Small doses of beef juice or egg albumin may be introduced, but the cereal water is depended upon. It will support life until the digestive organs are free from acute disease, and then may be added to in any of the ways outlined above.

It is important to add that I do not expect the classes just mentioned to gain in weight until digestion and assimilation are operative. The attempts to force the child to gain in weight is at the bottom of many failures in handling these cases. The guiding principle should be to secure digestion and we may wait a reasonable time for the desired gain in weight.

Group 3 consists of cases where the child has not been suspected of nutritional lack; it has gained in weight, though slowly. The parents usually consult the physician because the child does not sleep well, demands several feedings during the night, and much entertainment during the day. It is a cross, nervous baby. Inquiry brings out the fact that the stools are frequently green, and full of so-called "curds," really fat particles, contain much mucus and are passed with tenesmus. The child does not have colic, as in proteid indigestion, but the act of defecation is frequently painful. These are usually cases of fat indigestion. An extreme case of this character is as follows:

Martha M., aged 7 months. Mother a healthy, well-developed woman, attempted to nurse this, her first, child, but said she failed. Her physician ordered Just's food, for the baby, to be made up with cow's milk. Child was getting 4½ per cent. of fat, 7 of sugar, and 2 of proteid. Baby never had slept more than two hours at a time, and this sleep was never sound, and the parents had settled into the belief that the baby had inherited an unbalanced nervous system. There was some tenderness of the knees, ankles and elbows. I was consulted because of an unusually wakeful and tearful night the child was having. The child was put for two weeks on a buttermilk and milk-sugar diet. After that cream was tried in small quantities at different times, but always caused a return of the restlessness and tenesmus in defecation, and cod liver oil was substituted. The child made a good recovery, is now 16 months of age, weighs 22 pounds, feeds at bedtime, sleeps all night, but can not take fresh cow's milk in any form. Its food has been cereal gruel, buttermilk, egg albumin, beef juice, cod liver and olive oils, and orange juice.

Sometimes the mere reduction of the percentage of fat will answer the purpose, but in such cases I usually cut out the fat altogether till improvement is manifest and then add it, first in some other form, then cream, and gradually work up to more, if possible.

Group 4 comprises those cases that have not gained in weight. They have much colic, they do not cry much, but whine a good deal, they are weak and

pallid. Sleep is not good, but is stuporous rather than nervous. There are frequent attacks of diarrhea, when green, foul-smelling stools are passed, alternating with constipation, where the stools are hard and dry. These are usually cases of proteid indigestion. They are started in cereal water and egg albumin, the latter given twice daily until a whey and milk-sugar mixture can be introduced. Fats are gradually introduced, but no casein is allowed until the stools are normal and the child is gaining in weight steadily. Then whole milk is gradually introduced.

CONCLUSIONS.

1. Milk feeding is the goal of effort in each case, but is always approached gradually, and radical changes to other foods are advised temporarily and a new approach to milk feeding attempted rather than experimental efforts in cow's milk dilutions.

2. The substances used are few and available. Fresh cow's milk, buttermilk, condensed milk, cereal waters, milk sugar, egg albumin, beef juice, cod liver and olive oils, orange juice.

3. The effort primarily is to secure food the child will digest and not to secure gain in weight.

4. Percentage, composition and caloric value of food are always heeded, but the child itself is the chief guide to the food it can assimilate.

WEST SIDE BRANCH CHICAGO MEDICAL SOCIETY.

Meeting of Nov. 21, 1907.

"ABUSE OF MEDICAL CHARITY."

Dr. Joseph De Lee discussed the following points:

1. What people are entitled to free treatment?
2. Who are entitled to half free treatment?
3. The three kinds of free treatment.
4. Elimination of the imposter.
5. Outside of the human nature of trying to get things for nothing, there is another cause for the free-treatment evil.
6. The relation of education.
7. The cure.

Dr. F. D. Marshall discussed the free treatment as applied by dispensaries. None but the poor should receive free treatment at dispensaries or county hospitals. All applicants for charity treatment should be investigated. This is the only way of keeping out the undeserving. Cases cited to illustrate the present and past management.

Dr. C. S. Bacon first called attention to the frequency and amount of medical charity and, using the figures given by Dr. Renn, chairman of the Committee on Medical Charities of the Chicago Medical Society, namely, 300,000 cases a year in Chicago, computed that this charity, much of which was in hospitals, was worth \$3,000,000 to \$6,000,000. This amount is five to ten times the value of all other charities and would amount to about \$1,000 for each practicing physician of the city. The evils of medical charity are the bad effects on the recipient, on the community and on the physician. The effect on the physician should not be too much emphasized, but the pauperizing tendency of free medical treatment on the patient and on the community is of very great importance.

Although one of the chief causes of this abuse of medical charity is the competition of the dispensaries of the medical schools for clinical material, yet if there were no other givers of free medical treatment there would be plenty of clinical material for all the medical students of Chicago from those who are really

unable to pay. He estimated that there are in Chicago about 1,400 undergraduate medical students of the last two years who attend clinics, and about 600 post-graduate students. Each patient on an average can be seen by four students; 100,000 patients would, therefore, furnish material for 200 cases for each student, a sufficient number for the best kind of clinical teaching. Every teacher knows that many private patients can be used as clinical material. Probably half of the material can be supplied in this way. Hence 50,000 to 75,000 free cases would furnish the teaching clinics of Chicago when used properly, and this is about the number of cases that deserve free treatment. The great difficulty arises from the fact that many cases are treated by hospitals that refuse to admit medical students. The principle should be established that every hospital or dispensary giving free treatment should allow students to attend both, because of the importance to the community of a well-educated medical profession and because better treatment is given in teaching clinics.

Dr. John M. Dodson stated that many of the evils of indiscriminate medical charity had been well portrayed by Dr. Kenyon in his entertaining and instructive allegory. He agreed with Dr. Bacon that the subject was a complex and difficult one. The problem was not new or peculiar to Chicago, but had existed for many years, and the abuses had reached much larger proportions in some other cities, e. g., London and New York, than in Chicago. Every effort should be made, however, to lessen the abuses here before they have reached larger proportions.

He desired to present briefly an account of the work of the committee on this subject of the Chicago Medical Society of which he chanced to be a member. This committee had already secured valuable statistics and information, especially with reference to the dispensaries. It was felt by the committee that the better and more prompt results would be obtained by confining its energies to one phase of the question at a time, and, therefore, the hospital abuses have not been seriously taken up. In connection with the dispensaries, several abuses exist, conspicuously: 1. The admission of persons able to pay a physician and, therefore, undeserving of free treatment. 2. The careless, slipshod way in which patients are often railroaded through the dispensary departments. 3. The failure to follow up the deserving poor patients by home visitation and to correct the conditions which militate against the sins of the patient and his restoration to health and self-support. In these days drug prescribing constitutes but a part, often a minor part, of natural therapy.

The first abuse, though perhaps not the most important in the long run, is, for the present, uppermost in the minds of the profession, commands their deep interest, and is perhaps the one most easily remedied. To this phase of the problem, therefore, the committee has devoted the most of its work.

The fifty-five or more dispensaries in Chicago may be divided into two groups, the semi-public institutions, connected, with but few exceptions, with teaching institutions, commanding the respect and support of the profession, and which, we may expect, to be willing and anxious to correct any abuses which exist, and, secondly, the private dispensaries, conducted by one or more physicians, or by a drug store, apparently for some motive ulterior to the desire to benefit the patient. The latter group is most open to criticism, their very existence is, in most cases, indefensible, and they sadly need regulating. It is the feeling of the committee, however, that the first thing to be accomplished is the correction of such abuses as obtain in the dispensaries of the better class, for which the profession as a whole is in a measure responsible. Only when these semi-public institutions have been put on a proper basis and are known to be using effective means to discriminate between the deserving poor and the imposters can we hope to proceed effectively against the "private" dispensary.

The instruction of medical students is a legitimate and important function of

the dispensary and of great advantage to the patients, for nowhere are they so carefully examined and skilfully treated as in a "teaching" institution. Nevertheless, no dispensary, however great may be its need of clinical material, has any right to give free service to those who are able to pay a physician.

The serious harm is not that done to the physician of the neighborhood in depriving some doctor of a fee, but the harm done to the community at large in pauperizing some of its members.

Two ways of correcting this charity abuse are possible: (1) legislation or (2) voluntary and cooperative regulation by dispensaries themselves. Legislation is being tried in New York, where a state commission has entire control of the dispensaries, with power to inspect and investigate and, if necessary, to revoke a dispensary license. Reports are somewhat conflicting as to the effectiveness of the plan. Dr. Dodson believed that voluntary cooperation could accomplish as much or more than legal enactment; at any rate, he would like to see it tried. It is proposed in the near future to call a conference of representatives of all the quasi-public dispensaries in Chicago to discuss the whole question thoroughly, and to propose that a uniform set of regulations be adopted by every dispensary represented, providing for the investigation of all applicants for treatment, the exclusion of the undeserving and possibly the prosecution of persistent imposters. These dispensaries might agree to place themselves under the supervision and control of a commission appointed by the Chicago Medical Society or the Bureau of Charities, or both acting jointly, such commission to have authority to inspect every dispensary at frequent and unexpected times and to report any violation of the rules adopted by the Chicago Medical Society. It is believed that if the members of the Chicago Medical Society, nearly 2,000 in number, insist that such action be taken, and make clear that they will antagonize every dispensary refusing to conform to such a plan, that no institution of the East can afford to refuse cooperation in the proposed plan.

Dr. Dodson said he would take exception to two statements of Dr. DeLee. First, he believed the idea that the alleged incompetence of the physician in any neighborhood was justification for admitting a patient, able to pay, to a dispensary or hospital, was thoroughly pernicious. The people of the state, through the State Board of Health, have determined who are competent to practice medicine and have licensed these persons so to do for a charitable institution. To take away from any of these physicians pay patients, to solicit the patronage of such by calling at their homes, and, above all, to ask and accept from their considerable contributions \$5.00, \$10.00 and even \$15.00, as has been done in Chicago, is absolutely indefensible on any grounds of public policy.

Second, Dr. Dodson believed it to be a mistake to have clinic patients given the idea that in permitting themselves to be presented to a class of students they were thereby rendering compensation for their treatment. This idea has long been generally promulgated, but it is fallacious and leads to serious abuses. Nor is it necessary to secure sufficient clinical material for legitimate purposes. Among the really poor, on the one hand, and the sensible, right-minded sick of the well-to-do class, on the other hand, abundant patients may be had for clinical uses. At perhaps the largest surgical clinic in the world, remote from any college, but where are assembled daily from ten to forty or more physicians, for what is really postgraduate instruction of the higher type, ample fees are paid by the large majority of the patients. Yet every one of these patients is operated upon before this considerable group of physicians, postgraduate students, and should any patient object he would doubtless be told to go to some other surgeon. Tactfully approached in the matter, the large majority of pay patients would offer themselves for clinical study and demonstration with no thought of intermission of fees.

CHICAGO OPHTHALMOLOGICAL SOCIETY.

Regular Meeting Nov. 11, 1907.

DR. F. C. HOLTZ in the Chair.

TUMOR OF PITUITARY BODY.

Dr. Casey A. Wood reported a case of probable tumor of the pituitary body exhibiting binasal hemianopsia occurring in a woman. The visual fields were characteristic and the skiagraph which was taken of the skull showed an enlargement of the sella turcica and considerable increase in size of the pituitary body. One of the interesting clinical features of the case was the absence of menstruation.

DISCUSSION.

Dr. Henry Gradle has seen six or eight cases of bitemporal hemianopsia in the past eight years. One of the patients was a woman and she did not menstruate for at least one year. On looking up the literature on the subject, Dr. Gradle found mention made in a number of instances of probable or suspected tumor of the hypophysis and of interference with menstruation in comparatively young women. Five of his patients presented striking appearances of the skull and one patient had the so-called leonine face. Dr. Patrick examined this patient and found a general condition of infantilism, especially about the genitalia. The man was about 26 years old. Mentally he was unusually well developed. He was under observation for about a year and a half, and during that time the visual atrophy and deterioration of sight did not increase, so that, undoubtedly, the condition was relatively stationary for a while. This was not a clear-cut case of hemianopsia. In another case the condition was stationary for a year at least, if not three years. This patient presented the symptoms found in cases of fibroid tumors of the epipharynx, the so-called frog face. Another patient died, presumably from the effects of the tumor, but a postmortem was not made. The case began at the extreme temporal periphery in both eyes and gradually became a bitemporal hemianopsia; remained stationary for a few months, and then increased to complete atrophy. It evidently was a case of intracranial tumor, but a postmortem was not made.

Dr. W. H. Peek has seen four cases of tumor of the pituitary body. In one case there was an enlargement of the sella turcica, and the woman later developed a terrific headache, to relieve which an operation was done. A portion of the right parietal bone was removed and that gave the patient considerable relief, but she died subsequently. In this case there was found a gangrene of about twelve inches of the intestine, and Dr. Oscar King, who saw the patient in consultation, thought that this was a very rare complication, something he had never heard of before. Another woman who had a bitemporal hemianopsia lived about three years. In a third instance the condition followed an ovariectomy, and menstruation did not take place again after the operation. About a year later the tumor of the pituitary body developed, and the woman died after several months. Dr. Peek now has under observation a case that presents many of the symptoms cited by Dr. Wood, except that, instead of being binasal, it is bitemporal. The lady has enjoyed very good health until about a year ago, when she had very severe headaches, and since then there has been very little change in the bitemporal hemianopsia, but the patient has been actively engaged in business all of the time, which Dr. Peek thought worthy of mention.

Dr. E. F. Snyder saw a case with Dr. Sidney Kuh which presented a symptom not uncommon in tumor of the pituitary body, the passage of enormous quantities of sugar in the urine. He suggested that, inasmuch as diabetes is a

the dispensary and of great advantage to the patients, for nowhere are they so carefully examined and skilfully treated as in a "teaching" institution. Nevertheless, no dispensary, however great may be its need of clinical material, has any right to give free service to those who are able to pay a physician.

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Dr. Henry Gradle has seen six or eight cases of bitemporal hemianopsia in the past eight years. One of the patients was a woman and she did not menstruate for at least one year. On looking up the literature on the subject, Dr. Gradle found mention made in a number of instances of probable or suspected tumor of the hypophysis and of interference with menstruation in comparatively young women. Five of his patients presented striking appearances of the skull and one patient had the so-called leonine face. Dr. Patrick examined this patient and found a general condition of infantilism, especially about the genitalia. The man was about 26 years old. Mentally he was unusually well developed. He was under observation for about a year and a half, and during that time the visual atrophy and deterioration of sight did not increase, so that, undoubtedly, the condition was relatively stationary for a while. This was not a clear-cut case of hemianopsia. In another case the condition was stationary for a year at least, if not three years. This patient presented the symptoms found in cases of fibroid tumors of the epipharynx, the so-called frog face. Another patient died, presumably from the effects of the tumor, but a postmortem was not made. The case began at the extreme temporal periphery in both eyes and gradually became a bitemporal hemianopsia; remained stationary for a few months, and then increased to complete atrophy. It evidently was a case of intracranial tumor, but a postmortem was not made.

Dr. W. H. Peck has seen four cases of tumor of the pituitary body. In one case there was an enlargement of the sella turcica, and the woman later developed a terrific headache, to relieve which an operation was done. A portion of the right parietal bone was removed and that gave the patient considerable relief, but she died subsequently. In this case there was found a gangrene of about twelve inches of the intestine, and Dr. Oscar King, who saw the patient in consultation, thought that this was a very rare complication, something he had never heard of before. Another woman who had a bitemporal hemianopsia lived about three years. In a third instance the condition followed an ovariectomy, and menstruation did not take place again after the operation. About a year later the tumor of the pituitary body developed, and the woman died after several months. Dr. Peck now has under observation a case that presents many of the symptoms cited by Dr. Wood, except that, instead of being binasal, it is bitemporal. The lady has enjoyed very good health until about a year ago, when she had very severe headaches, and since then there has been very little change in the bitemporal hemianopsia, but the patient has been actively engaged in business all of the time, which Dr. Peck thought worthy of mention.

Dr. E. F. Snyder saw a case with Dr. Sidney Kuh which presented a symptom not uncommon in tumor of the pituitary body, the passage of enormous quantities of sugar in the urine. He suggested that, inasmuch as diabetes is a

very common complication, eye symptoms may manifest themselves which possibly are due as much to the diabetes as to the tumor. In the case he mentioned there was a mature cataract in each eye, probably due to the diabetes and not to the acromegaly. Light perception was completely gone in one eye, and only the outer portion of one field was left. Dr. Snyderacker pointed out that, according to the text-books, it seems easy to diagnose tumor of the chiasm and tell whether it is pressing on the nasal or temporal portion. A tumor pressing so as to produce a heteronymous diplopia seems impossible of explanation. Pressing on the nasal portion of the chiasm should produce bitemporal hemianopsia, or if we have a tumor cutting off one nerve lower down it should produce complete blindness. He asked Dr. Wood for his theory as to the production of heteronymous diplopia.

Dr. Casey A. Wood, in closing, stated that he did not believe that any one but an expert should attempt to interpret a skiagraph, even though the changes shown may appear to be very definite. It is the duty of the radiographer to give his opinion in the case, and, being an expert in such matters, his opinion ought to be relied on. In Dr. Wood's case the radiographer, Dr. Reichmann, gave it as his opinion that there was an enlargement of the sella turcica and evidence of tumor of the pituitary body. So far as operation is concerned, Dr. Wood could not see how a mere opening of the skull could do any good, except to relieve pressure; nor does he believe it to be rational to do a spinal puncture or to open the skull and go into the brain tissue. Of course, successful operations have been done on the pituitary body, but thus far only by Sir Victor Horsley of England, but so far the efficacy of an operation is still questionable. Dr. Wood did not agree with Dr. Snyderacker as to the difficulty of understanding binasal and bitemporal hemianopsia if one considers the course of the optic fibers, but he does think that the imagination must be called upon to suppose that a tumor does press on something. There must be, and probably is, an actual destruction of nerve fibers supplied to different parts of the globe, but one must imagine not only destruction of these particular fibers, but of the fibers that are supplied to other parts. In Dr. Wood's case there is a beginning atrophy of the whole nerve, and he gave it as his belief that the woman will eventually become totally blind.

ACROMEGALY IN CHILDREN.

Dr. Frank Allport has under his care three cases of acromegaly occurring in children. They are semi-idiotic, and it is impossible to examine their eye fields because of their nervousness and restlessness. The first child seen is a girl. The second is a boy whose mother was a sister of the father of the first patient. The third patient, also a boy, was related to the first child. His mother was a sister of the mother of the first patient, so that there was no family relationship between the two boys. All three patients had congenital cataracts.

CASE OF ALMOST COMPLETE IRIDODIALYSIS.

Dr. E. F. Snyderacker reported the case of a man who, in stooping, suddenly struck his right eye on the back of a chair. Immediately his sight was gone and vision did not return. He suffered great pain. When seen three or four weeks after the accident, it was evident that there had been a rupture of the chorioid. There was a large scar, 3 or 4 millimeters above the limbus. The iris was completely torn away above and had settled in the lower portion of the eyeball. The pupil was a small black spot. The anterior chamber was very deep. The lens evidently had been dislocated or had come out of the eye entirely, or it may have been subconjunctival or down in the vitreous. The iris is tremulous, showing that the lens is gone. At first the eyeball was very soft; now it is very hard. According to one theory, when the cornea receives a blow, the lateral diameter of the eye is suddenly increased. The iris can not accommodate itself to this

increase, and the pectinate muscle is torn from its attachment. Another explanation, and in Dr. Snyder's opinion the better one, is that when the eye is struck violently the aqueous is forced backward and the weaker portion of the iris is the most likely to yield, and an iridodialysis results.

Dr. Snyder also mentioned briefly a litter which he has designed to carry patients from the operating table without disturbing them.

CONGENITAL COLOBOMA OF UPPER EYELID.

Dr. W. O. Nance exhibited a 9-months-old girl, of Danish parentage, exceedingly well nourished and well developed, except for a unilateral coloboma of the upper left eyelid. The fissure was situated near the median line of the lid, somewhat to the nasal side. There was no other malformation present in the child. Ophthalmoscopic examination was negative, except that the eye was hyperopic to the extent of 3 or 4 diopters.

SARCOMA OF THE CHORIOID.

Dr. W. E. Gamble reported the case of a man who complained of failing sight and flashes of light, becoming more frequent and more constant. The personal and family history were negative. The eye was normal externally. The ophthalmoscopic examination revealed a detached retina on the temporal side, extending from the region of the disc forward almost to the ora serrata, cyst-like in appearance. Only with great difficulty could there be detected any movement of the retina in changing the position of the head. Tension was minus. Transillumination was negative, but a diagnosis of suspected sarcoma of the chorioid was made. Later the patient had violent pain in the eye: the pupil was widely dilated, and there was present superficial venous congestion, with a plus 1 tension. The eye was removed, and the tumor proved to be a round-cell sarcoma of the chorioid. Dr. Gamble emphasized the fact that in intraocular tumors, during the first stage, the tension may be minus.

DISCUSSION.

Dr. Casey A. Wood thought that the diagnosis of intraocular tumor is not as easy as is stated in text-books, as is shown by Dr. Gamble's case. A man with a good personal and family history shows a distinct minus tension with any localized injection or other evidence of tumor, but, he continued, the microscopic section explains the practical impossibility of making the diagnosis. The character of it, the implication of follicular tissues, the commencement in the posterior part of the eye, and its small size explain it all. These tumors have been called crypto tumors. They are associated with exudates in the vitreous, so that, even when it is possible to examine the tumor closely, a definite diagnosis can not be made, as in this case. Dr. Wood would call this cryptosarcoma. He suggested that skiagraphers develop their technic so that they can distinguish between solid tumors and exudates, which would furnish a means of diagnosis in these cases. Dr. Wood has failed in a large number of these cases to make a diagnosis. It is very puzzling when the tumor is covered with exudate, with the usual clinical signs absent.

Dr. W. H. Peck referred to a case of melanosarcoma with minus tension that he exhibited last spring. He removed the eye six weeks ago. The tumor has assumed large proportions. Transillumination also failed in this case to make a diagnosis. Dr. Peck stated that differentiation of tumors from exudates by means of the x-ray would be rather difficult on account of the ethmoid bones which offered so great an obstacle to the ray that any fleshy tumor would not be visible in the skiagraph.

Dr. Geo. F. Suiker has found it advantageous in using transillumination to

have the room dark and to use a little tube like opticians use and an electrophthalmoscope and have the transilluminator posteriorly. It makes considerable difference and one gets a better view and is better able to differentiate between tumor and exudate. It gives a perspective not obtained otherwise. As to the skiagraph, he believes that the only thing to do is to take a stereoscopic view, taking pictures from different sides.

Dr. Wood suggested that the position of the tumor might make it impossible to use transillumination, although it would not be of much service in masses situated behind the equator of the globe. It is only those obstructions existing in the anterior of the eye that can furnish any evidence of their existence. When they occur in the neighborhood of the nerve head, not much evidence can be expected from any kind of transillumination.

OCULAR PARALYSIS.

Dr. H. B. Young, Burlington, Iowa, reported a case of ocular paralysis following a football accident. Following a blow on the eye from another man's head, the force of the blow impinging on the malar bone, the boy became unconscious and after arriving home he vomited. There was much swelling and ecchymosis, but the physician in attendance did not find any evidence of fracture of the bone. When the eye was opened the following morning, the boy found he had diplopia. The condition had changed but little since then. The swelling had quieted down, and in the median horizontal plane there is no diplopia, but only on looking up or down. There is manifest lack of upward and downward motion; the muscles affected are evidently the superior and inferior recti. It undoubtedly was not a case of intracranial injury, because then the whole third nerve would have been involved, with ptosis, divergent squint and dilated pupil, but lateral motion is perfect.

DISCUSSION.

Dr. Brown Pusey stated that he had seen horizontal paralysis of inferior and superior rectus in both eyes.

Dr. Thomas Faith has seen three cases in which there was paralysis of the internus, superior and inferior muscles, leaving both obliques intact and accommodation normal. These cases were not of traumatic origin. Dr. Patrick thought that the location of the nuclei of the individual fibers of the nerve were so distributed along the floor of the fourth ventricle that only two or three roots could be involved and the others remained free.

OPTIC NEURITIS OF INTRAOCULAR ORIGIN.

HENRY GRADLE, M.D., CHICAGO.

The paper referred to the pathogenesis of one-sided optic neuritis due to the extension of chorioidal inflammation, dwelling especially upon that form which the writer had previously described as transient, circumscribed, central chorioretinitis. The lesion is a single chorioiditic patch, more or less centrally located, of variable size, ending in partial chorioidal atrophy, and leaving ultimately a circumscribed scotoma. There are always some vitreous opacities and deposits on Descemet's membrane during the active period of the disease, which is very often accompanied by optic neuritis. When the chorioidal patch is very small, and especially when such a small patch is located close to the edge of the disc, the optic neuritis may appear at first to be the primary disease. But on observing vitreous opacity, deposits on Descemet's membrane, and ultimately the pigmentary changes in the chorioid, it becomes evident that the neuritis is but secondary to the chorioidal inflammation. This form of chorioiditis is presumably due to the entrance of infectious material into a posterior ciliary artery. Treatment by salicylates and iodid did not seem to influence the course of the disease, while cathartic doses of calomel were apparently of benefit. The writer also

called attention to the occurrence of optic neuritis in the course of other forms of chorioiditis.

MORTIMER FRANK, Secretary.

CHICAGO SURGICAL SOCIETY.

A clinical meeting was held at the Michael Reese Hospital, Nov. 1, 1907, with the President, Dr. A. J. Ochsner, in the chair.

CRUSHING INJURY OF THE FOOT.

Dr. Louis A. Greensfelder showed a boy, 12 years of age, who sustained an accident. The fifth tarsal and metatarsal bones of the left foot were totally destroyed; the astragalus was badly crushed and disarticulated; the soft parts were crushed to a pulp; the limb was swollen and red to above the knee. In the right foot, second and third metatarsals were crushed; the muscles and tendons were badly bruised; the foot was greatly swollen and red to about two inches above the ankle. When patient was admitted to hospital, the wound was opened, irrigated and swabbed with a 95 per cent. solution of carbolic acid, which was followed by the application of alcohol. The wound was dressed from five to six times a day; a line of demarcation was allowed to form and to amputate itself. Nothing was done, excepting to cleanse the wound three or four times a day at first, and now it is dressed about once a day. The case was presented to show the results of conservative surgery.

ARTHRITIS DEFORMANS.

The second case was one of arthritis deformans. It simulated to some extent cervical Pott's disease and was presented from the standpoint of differentiating between cervical Pott's and an arthritis deformans.

SARCOMA OF THE NECK.

This patient is 28 years of age, and was first seen two years ago, at which time she had a swelling in the nape of the neck. The tumor was removed under local anesthesia, and, although before operation it was thought to be a lipoma, subsequently it turned out to be a rare form of sarcoma, after enucleation. It started as a lymphadenocysticum and later developed into sarcoma.

The pathologic report was presented by Dr. Maximilian Herzog.

EMBRYONAL RENAL ADENOSARCOMA.

The fourth case was that of a child who was kicked in the abdomen while playing with another child on July 4. Child was admitted to hospital on July 7. Examination disclosed a small tumor, the size of a hen's egg, just above the pubes, which led the speaker to think that he had to deal with a hematoma. When the peritoneal cavity was opened, there was an enormous gush of blood. A small piece of the tumor mass was enucleated, which was examined microscopically and found to be renal adenosarcoma. The tumor continued to grow until it occupied the entire peritoneal cavity, and the child died on October 18.

The postmortem and pathologic findings were described by Dr. Herzog.

CARCINOMA OF THE SUPERIOR MAXILLA.

Dr. L. L. McArthur presented a case to illustrate the fact that some of the apparently hopeless cases may still gain some relief by surgical interference. A year ago he had the worst case of carcinoma of the superior maxilla with which he had to deal. The tumor was so large as to prevent the closure of the mouth. The usual incisions were made which are employed for trouble of this nature, and, after reflecting a flap of skin in the usual way, the entire superior maxilla, a fair portion of the left palate, and as far back as the tonsils were removed. After the lapse of some months a small recurrence within the mouth about opposite the pterygoid plates occurred. This was treated energetically with the x-ray, with a complete clearing up of that recurrence, and the patient's restoration to very good health.

JASPER COUNTY.

The Jasper County Medical Society held a very successful meeting on Friday evening, February 15. The annual election of officers was held, the following being elected: Dr. W. G. McDeed, President; Dr. W. F. Franke, Vice-president; Dr. James P. Prestly, Secretary-treasurer; Board of Censors, Drs. H. S. Hinne-man, E. F. Burton, and C. M. Kaley. Dr. W. G. McDeed and Dr. J. Y. McCul-lough were elected to membership. By a unanimous vote Dr. John H. Maxwell was elected an honorary member for life. Dr. Maxwell is the oldest practitioner in the county in years of practice, and well deserved the honor conferred upon him by the society. Mr. Charles Bell, representing *The Journal* of the American Medical Association, was present and aided very materially in increasing the interest in the meeting.

JO DAVIESS COUNTY.

The Jo Daviess County Medical Society was called to order in the offices of Dr. Kreider, Lena, Ill., Jan. 16, 1908, at 1 p. m. Upon roll call the following responded: Stafford, I. C. Smith, Kreider, Godfrey, D. G. Smith, Bench, Gunn, U. S. Lewis, Staples, Kolb, and Czibulka. The President appointed I. C. Smith, Godfrey and Kreider as a committee to audit the Secretary's and Treasurer's books, and the committee brought in the following report:

RECEIPTS.

Balance on hand from last year.....	\$ 18.72
Collected during year.....	137.00
Total receipts	\$155.72

DISBURSEMENTS.

Paid state society for state membership and defense fund.....	\$ 64.50
Hollister and Ensign memorial.....	8.00
Reprints	4.25
Expense connected with Dr. Moyer as guest.....	12.05
For printing, supplies, etc.....	31.93
Salary for Secretary	20.00
Balance in hands of Treasurer this date.....	14.99

The revisionment of the entertainment division was found correct, with the exception of placing Dr. Cohen, of East Dubuque, to the Elizabeth division. The election of officers for the ensuing year resulted in the following: A. F. Buch-nam, President; H. F. Gunn, Vice-president; D. G. Smith, Secretary-treasurer; censors, Stafford, Tyrrell, and Cottral; delegate to state meeting, E. M. Bench; alternate, D. G. Smith. The application of Frank Seidenberg, of East Dubuque, was read and received, after which Dr. I. C. Smith read a paper on the "Anatomy of the Stomach."

Dr. G. A. Staples, of Dubuque, then read a paper on the "Early Symptoms of Ulcer and Cancer of the Stomach," which was well received and added very materially to the success of the meeting.

Dr. Staples said: "Pain of some sort is the most constant and early symptom of ulcer. This pain is usually mitigated by change of position and is practically always in a definite area, coming on after each full meal. There is always much greater comfort after a light than after a heavy meal, and the distress occurs, as a rule, a half-hour or an hour or two after eating. If vomiting occurs, almost invariably some trace of blood can be found by careful examination, or by the Weber test blood can be found in the stools. As a rule, there is a tender area just below the ensiform cartilage and not uncommonly another tender spot about the tenth dorsal vertebra.

"The early symptoms of cancer of the stomach are decreased appetite and wasting, with loss of strength coming on in a patient otherwise well. Loss of

flesh may be the only symptom beyond loss of appetite and discomfort after eating. Pain is usually felt at the epigastrium, but, unlike ulcer, there is an absence of tenderness on pressure. The three most constant symptoms are pain, vomiting and tumor. The distress may not be much influenced by diet. The Oppler-Boas bacillus is present in about 90 per cent. of the cases in gastric cancer.

"An examination of the stomach contents obtained after a test meal should not be neglected. While free HCl in good quantity is against a diagnosis of cancer, the absence of free HCl is decidedly in favor of it, as in 80 to 90 per cent. of cases of cancer of the stomach free HCl is absent, or, if present, it is in very small quantity. An excess of free HCl is decidedly in favor of ulcer, just as the presence of lactic acid is decidedly in favor of cancer. A microscopic examination of the stomach contents may show blood cells and portions of the growth which are, of course, of the greatest importance. Portions of the growth and cancer cells are absolutely pathognomonic of cancer.

"If a tumor is felt, the position of the growth in the stomach may be shown, as also the shape of the stomach, either by inflating the stomach through a tube or by giving the patient a teaspoonful of sodium carbonate dissolved in water; if there is free acid in the stomach, it will decompose the sodium carbonate, and CO_2 will be evolved, but, if there is no free acid in the stomach, about 30 gr. of tartaric acid dissolved in water can be given and this will immediately cause the stomach to be distended and its outline and relation of the tumor will be made manifest. In cases of ulcer, the sodium carbonate dose alone is often sufficient; but in cancer the absence of free acid usually necessitates the tartaric acid dose also, thus affording some help in diagnosis. The presence of enlarged veins on the surface of the abdomen, indicating obstruction to the venous return, of enlarged glands in the groin, of nodules on the skin, of enlarged glands over the left clavicle, or of secondary signs of growth in the liver, bowels or peritoneum, must all be taken into account."

Dr. Staples spoke of the disadvantage of stomach lavage. "In the first place, the test breakfast gives decidedly too easy work for the stomach and may lead to wrong conclusions. Again, it is sometimes impossible, even with the greatest care, to introduce the tube. For example, the irritable throats of smokers and drinkers can prevent its introduction. The sense of air hunger in patients with emphysema makes its introduction very difficult at times, and in ulcers of the stomach severe and even fatal hemorrhages have followed its use. For these reasons investigators have sought other methods of estimating the motor functions and presence of HCl in the stomach. Sahli found, therefore, after many attempts, a substance which only can be digested in stomach juice of nearly normal proportions of pepsin and free HCl. This was raw connective tissue in the form of the finest catgut, with which he closed up some pills of methylene blue or iodoform covered with rubber. Either methylene blue or iodoform can serve as a reagent. The evidence of either of these in the sputum or urine after a certain time shows that the stomach can do the work demanded of it; that is, the digestion of the catgut envelope. While methylene blue shows itself by a green coloring of the urine at the evening of the same, or morning of the next day, and can be recommended for practice. The iodoform method has the advantage that also the sputum in which iodine becomes dissolved can be used for the proof of its presence. For example, the latter is important in cases of insufficiency of the kidneys where the road through the kidneys is not exactly normal.

"The most important thing is the freeing of the reagent out of its coating in the stomach while its absorption takes place after it has passed into the bowels. The lack of reaction would show that either the food, together with the pill, went too quickly into the bowel before the catgut envelope had been digested, or that an absolute insufficiency of the secretory and motor function of the stomach existed. A small grade of this insufficiency would be probable by a delayed reaction."

Dr. Staples stated that, in his own observation, he had limited himself to the methylene blue method. "Where the patients have good kidneys, the green color of the urine shows promptly. The little pills can be swallowed immediately after

an ordinary meal with water. The patient is then directed carefully to swallow and to avoid chewing in order that the coating may be protected. The evening urine and the urine of the next morning is examined. In an alkaline condition of the urine the green discoloration sometimes can not be obtained and can only be brought out when boiled with a little acetic acid." In a series of 55 cases observed by Dr. Staples and his friends of various forms of stomach trouble, there were, by this method, as the final result showed, 4 cases of cancer of the stomach, all of which showed a negative reaction; this negative reaction was found even when lactic acid was present in considerable amount.

The essayist also showed the ram and rabbit antigonococcus serum of Rogers for the treatment of gonococcus infections. He reported one intractable case of gonorrheal rheumatism cured by these injections.

He also exhibited samples of Calmette's tuberculin serum for the ophthalmologic reaction and reported its use in about 30 cases, 4 of which gave the reaction and were known to be tuberculous. The serum, when dropped in the conjunctival sac of a patient who has hidden tuberculosis, in a few hours produced a decided conjunctivitis; this, as a rule, abates within a short time. When dropped in the conjunctival sac of a perfectly healthy person, no result is had. Both the serum from England and the tablets prepared by the Parke-Davis Co. were employed, and, in the judgment of Dr. Staples, it seemed that a most valuable addition to our diagnostic resources had been added by this discovery.

The essayist also exhibited some specimens of the *Spirochaeta pallida* and strongly recommended the use of the method of staining worked out by Ward J. Mac Neal, M.D., and published in *The Journal of the American Medical Association*, Feb. 16, 1907.

D. G. SMITH, Secretary.

LOGAN COUNTY.

The Logan County Medical Society held its regular annual meeting in the Council Chamber of the City Hall, Lincoln, Feb. 13, 1908. The meeting was called to order at 3 p. m. by President C. Rembe, of Lincoln. Majority of all members present. The following applications were received and referred to the Board of Censors. The board reported favorably upon all applicants, and they were received into full membership. W. W. Houser, C. J. Rochow, T. L. Lanigan, J. E. Meloy, Lincoln, J. H. Perrin of Latham, O. P. Hopkins of Mt. Pulaski. L. L. Leeds of Lincoln presented the following resolutions:

WHEREAS, Certain charges have been made against Dr. Harry G. Hardt, Superintendent of the Illinois Asylum for Feeble-minded Children, involving his business and medical management of said institution; and,

WHEREAS, We are well acquainted with Dr. Hardt and know of his medical attainments and ideals and also know of his business integrity and ability; and,

WHEREAS, It is within our certain knowledge that he has been most wrongfully attacked and grossly misrepresented; therefore, be it

Resolved, That the Logan County Medical Society of Logan County, Illinois, in regular session convened, give our most hearty and unanimous indorsement to Dr. Harry G. Hardt as a gentleman of the highest integrity and a physician of high ability and training; and be it further

Resolved, That we most heartily commend the management of the said institution by Dr. Hardt to the parents of the inmates of said institution as the most humane and scientific that could well be obtained under the circumstances, and we believe that his honesty, integrity and medical ability will place the said institution on a high plane if he is given the means and opportunity.

Upon motion of L. L. Leeds the resolution was unanimously adopted by the Society.

The following officers were elected: President, L. M. Perry, Broadwell; first vice-president, C. C. Montgomery, Lincoln; second vice-president, C. C. Reed, Lincoln; secretary, H. S. Oyler, Lincoln; treasurer, A. M. Sargent, Lincoln; delegate to state society, C. Rembe, Lincoln; alternate to state society, H. L.

Casey, Lincoln; auxiliary member State Legislative Committee, L. L. Leeds; board of censors, L. L. Leeds, Lincoln.

Standing committees appointed by President L. M. Perry for 1908: Committee on Program, J. L. Lowe, C. C. Mountjoy, F. M. Hagans, Lincoln; Committee on Scientific Work, F. M. Ewing, Lincoln, H. M. Van Hook, Mt. Pulaski, C. Rembe, Lincoln; Committee on Public Health, F. M. Ewing, T. L. Lanigan, J. L. Lerin, Lincoln.

The annual address of the retiring president was then delivered by C. Rembe of Lincoln. Under report of cases, H. S. Oyler of Lincoln presented a number of skiagraphs taken at the x-ray laboratory at Deaconess Hospital.

MACOUPIN COUNTY.

The Maucoupin County Medical Society held its third quarterly meeting in the Masonic reading room, Carlinville, with Dr. Wm. M. Gross in the chair. The following members were present: Drs. Carr, Matthews, Collins, and Barcus of Carlinville, Drs. Gross, Knight, and English of Gillespie, Dr. Hall of Guard, Dr. Morgan of Nilwood, Dr. Bell of Lebanon, Dr. Thompson of Wausaw, Wis. The treasurer, having forwarded Dr. Weis \$10.00, reported \$4.75 in the treasury of the local society. The following named members of the medical profession in the county were declared eligible and elected to membership when they presented themselves and signed the constitution: E. S. Head, Carlinville; John S. Patterson, Staunton; J. A. Kennedy, Modesto; G. A. Floreth, Mt. Olive; Benjamin Hudson, Palmyra; Ernest G. Motley, Virden, and Wm. A. Brittin, Virden.

Under reports of cases, Dr. King described Ménière's disease: Symptoms, buzzing and dizziness, with nausea and vomiting. Treatment, bromid of strontium, with iodid of potash. Discussion: Suggested a middle-ear inflammation extending through the Eustachian tube from postnasal region, as a possible cause. Arteriosclerosis was not marked. Dr. English reported two cases of Cretinism. The treatment by thyroid tablets was successful in relieving the symptoms. Dr. Gross reported supraorbital neuralgia, or migraine, coming and going with the sun. Heavy doses of disulphate of quinin gave relief. Dr. Matthews reported a similar case, where the plasmodium of estivo-autumnal malaria was demonstrated in the blood with characteristic pigmentation and ameboid movements in the body of the red blood corpuscle. Treatment was heavy doses of quinin, Fowler's solution and Hall's solution. Dr. Gross recommended the use of 10-grain doses of resorein to the ounce of water as a gargle in whooping cough.

The Society then adjourned to the Central Hotel, where a table was especially prepared for the members of the society, and a sociable time was enjoyed by all. At the afternoon session three essays were read: Dr. English, "Pneumonia"; Dr. Collins, "Acute Pelvic Inflammation"; Dr. Bell, "Eclampsia." The papers were discussed by all members present. The society then adjourned to meet in April.

ECLAMPSIA.

(Abstract.)

The subject of eclampsia was discussed by Dr. Bell and gave the results of his experience with this disease, discussing in brief some of the theories as to the causation, and stating that he believes the convulsions are a result of a mechanical obstruction in the ureters caused by pressure of the pregnant uterus against the bony pelvic walls. The author then showed the anatomical reasons why this pressure occurs in the latter months of pregnancy, at which time the eclamptic convulsions most often occur. Therefore to substantiate this theory he names other possible sources of toxemia. These causes are present but do not act earlier in the time of pregnancy. Another evidence is the fact that in the very classes in whom we have reason to expect a greater pressure on the ureters, namely, primipara, twin pregnancy and contracted pelvis are the ones who are most apt to have convulsions. Again the earlier and quicker the removal of the child

usually relieves the condition. In quadrupeds the same physical law of uterogestation exists, but we never hear of convulsions. The reason for this being that their natural position is horizontal, which causes the weight of the uterus to rest on the anterior abdominal walls, thereby the uterers are free from pressure. The author relates the following case: "I was called on the night of Dec. 3, 1907, and upon reaching the house found a woman 23 years of age in a deep coma with blood and saliva running from her mouth. I immediately inquired as to the onset of her trouble and found it began with convulsions. She being a primipara and at eight and a half months of pregnancy, I immediately suspected eclampsia and gave her $\frac{1}{4}$ gr. of morphin with $\frac{1}{150}$ gr. of atropin, as I feared a return of the convulsions. I then catheterized her and succeeded in getting about 2 ounces of a highly colored urine. At the end of this time, which in all consumed about five minutes, the patient seemed less stuporous and began to rouse up and talk incoherently, this continuing for some ten or fifteen minutes, when her arms, legs and muscles of the face began to jerk and twitch. I immediately began giving chloroform and continued giving it for ten minutes until all the muscles were relaxed and spasm relieved. I then gave one drop of tincture of veratrum viride in one-half teaspoonful of water in the mouth every twenty minutes, which was swallowed for the first two doses, and afterwards absorbed from the mouth without being swallowed. This was continued until six doses were given and the pulse rate lowered from 170 to 90 beats per minute. The patient by this time was semi-conscious, but would talk, grumble and cry out. My next thought was directed toward increasing the eliminative functions and with the view in mind of an obstruction to the ureters, I thought less pressure would be exerted on the ureters if the foot of the bed were raised, which was done. In so doing the gravid uterus and its contents would tend to fall toward the head and in this way relieve any pressure at the brim of the pelvis. This step made me think that if there was still some pressure on both ureters, one ureter might be entirely freed, the right for example, if the patient were to lie on her left side, the feet being elevated; this I had done for twenty minutes, and then reversed position and had her lie on her right side for twenty minutes, thus freeing the left ureter. At the end of the forty minutes the patient seemed much improved, but complained of severe headache and expressed a desire to urinate. I then catheterized her and succeeded in getting 7 ounces of a highly colored and turbid urine. While I was convinced that my patient was on the safe side, I thought it well to stimulate excretory functions as much as possible, and to this end I gave $\frac{1}{12}$ of a grain of pilocarpin hypodermatically, an enteroclysis of normal saline and wrapped the patient in a steaming hot sheet and then in blankets. In a few minutes diaphoresis was quite marked, the patient being less stuporous and more quiet. At the end of a half hour the patient seemed all right, save for a slight headache, but knew very little of what had taken place. I gave a few fractional doses of calomel and had the last dose followed by a tablespoonful of castor oil, left the house, but told them to call me in case they noticed any change in her condition. The patient made an uneventful recovery and I delivered her three days later of a 7-pound boy. These convulsions are commonly periodical, and so soon as the time of their return can be anticipated, a careful use of chloroform by inhalation should be resorted to. Venesection is a good practice in connection with the above. I sincerely hope that the hearers of this paper will never or seldom meet with a case of eclampsia, but in case they should and this little article be the means of helping some practitioner to save the life of even one woman, then the motive which prompted me to the task of writing this will have been gratified.

MILITARY TRACT MEDICAL SOCIETY.

MEDICAL RESEARCH IN THE PAST YEAR.*

Wright of London has found that there are normally in the blood, chemical substances called opsonins, which so act upon the bacteria that the same bacteria

* Report of Committee on Medical Progress and Scientific Research.

are readily taken up by the white corpuscles and it is by this process alone that the blood has a resisting power to bacterial infections. It is also true that there are different kinds of opsonins manufactured by the tissues so that the opsonins which may neutralize one kind of germ and render it easily taken up by the white cell will not have any effect on another. Also it is found that opsonins in the blood of an individual suffering from the common infections are diminished, compared with the healthy individual, and if in this patient the opsonins are increased in strength or number just so much, there is a resisting power of the patient and the corresponding improvement in condition. When living tissue is inflicted by germs, the number of white cells usually increases and the opsonins in the serum show a corresponding increase, and by the co-action of these two factors the germs are destroyed, and the patient is cured. Now, on the other hand, if the germs multiply and the opsonins do not show a proportionate increase, the patient's condition is worse, it is therefore important to estimate the opsonic index or power of the patient's blood, and if low, to increase it.

THE OPSONIC INDEX.

By opsonic index is meant the strength of opsonins in any blood serum compared with the normal serum. For convenience, the normal serum is considered as having an opsonic index of 1, and the patient's serum to be below or above 1. This is found by counting how many bacteria a definite number of white cells will take up when these bacteria have been acted on by the opsonins of the serum. To raise the opsonic index the patient is injected with sterilized culture of the germ that is causing his individual disease. This is of definite value in pus infections, infections by colon bacillus, infections by tubercle bacilli, especially in localized tuberculosis of the skin, bones, joints and genitourinary tract; no definite conclusions have been reached regarding pulmonary tuberculosis.

THE TECHNIC OF THE TUBERCULO OPSONIC INDEX.

Equal quantities of the patient's serum and an emulsion composed of tubercle bacilli and white corpuscles are mixed in a test tube and incubated for twenty minutes at blood temperature, after which blood films are made and stained for tubercle bacilli. After counting the number of tubercle bacilli in a number of the leucocytes the number per leucocyte is averaged. The opsonic index is reckoned by comparing the number found with a normal case. If, for example, we find the number averages 3 per leucocyte, and the normal average is 2, the opsonic index would read 1.5. A uniform tubercle bacilli emulsion can be made so that each leucocyte will average to pick up 2 tubercle bacilli.

PHYSIOLOGY.

Cannon has made a special study of functions of the pyloric and cardiac ends of the stomach. Peristalsis occurs only over the pyloric region, the cardiac end acting as a reservoir. Recently he has made a study of the effects of etherization, cooling, drying and handling the various factors concerned in abdominal operations, on the movements of the stomach and intestines. It was found that neither the ether nor the cooling of the viscera, nor the drying checked to any marked degree the onward passage of the food. After handling, on the contrary, even the most gentle handling within the peritoneal cavity or under warm salt solution, no gastric peristalsis was seen and no food left the stomach for three hours. Fingering the stomach and intestines gently in air caused still greater retardation of the onward passage of the food and with rougher handling in air no food passed from the stomach for four hours, and then it emerged very slowly and was moved through the small intestine with extreme sluggishness. These observations were made on normal vigorous animals; when the strength has been sapped and bodily vigor lost the factors operating to check the activities of the alimentary canal must be much more effective. Nothing is more remarkable than the responsiveness of the canal to the conditions of general asthenia, which animals exhibit when afflicted with "distemper." All day long food will lie in the stomach without the slightest sign of a peristaltic wave passing over it. There is a total stoppage of the motor activity of the digestive organs. In asthenic states

leading to such conditions the handling of the stomach and intestines can only cause an intensification of the effect of general bodily weakness, a deepening of the state of inactivity. These studies were made by use of the x -rays.

DIAGNOSIS, TYPHOID FEVER.

Typhoid blood added to bouillon and incubated will develop the organism very early in the attack, while the Widal test is slow, sometimes only occurring after convalescence has been established. After drawing a few drops of blood from the patient it has been shown that the clot entangles practically all the bacilli, while the serum is nearly germ free. The blood may be drawn into a glass tube, in which it coagulates, and the clot is used for the culture experiment, while the serum serves for the Widal reaction. From one to four drops of blood suffice for these tests. The clot is removed on arriving at the laboratory and placed in the peptone bile mixture and incubated, after which it is plated as usual.

These tests yield a positive result in 50 per cent. of cases examined in the first two weeks of the disease. It is hoped that improvements in the method may lead to still better results. While the examination of the excretions must be depended on to determine the presence of bacilli capable of spreading the disease and are hence of the utmost importance in sanitary relations, it is to culture of bacilli from the blood that we must look for the early diagnosis of actual cases of this disease.

BIER'S METHOD OF TREATMENT.

The idea of making use of an increased volume of blood in and around the diseased tissue was conceived by Bier observing that patients who had suffered from stasis in the pulmonary circulation, due to heart disease, never showed an active tubercular lung affliction on postmortem examination. On the other hand it had been often seen that patients suffering from diseases of the heart that produce a certain amount of anemia of the lungs (stenosis of pulmonary artery) are especially subject to tuberculous disease of the lungs.

Bier's first attempt at the surgical clinic in Germany with active hyperemia, by means of prolonged baths or locally by means of the application of glass cups (suction method or eupping) proved unsatisfactory. He therefore tried the elastic rubber bandage which Professor von Esmerich had so successfully made use of for producing artificial anemia in cases of amputation and other operations on the extremities. Winding the elastic bandage around the limb above the seat of the disease, the thin walled veins were naturally more readily compressed than the firmer arteries, and while the latter continued to pump blood into the parts below the constriction, the return of the blood thus became interfered with, a partial stasis of venous blood was produced, and could be maintained at will. This is the nucleus of the so-called "Bier's treatment" by means of the elastic bandage. We are told by Bier to break with all our former ironclad rules regarding the treatment of these acute troubles, to consider as wrong the time-honored usage of prescribing ice, elevation, and often long incisions and drainage. The very hyperemia which hitherto we have been combating with all the weapons at our disposal, he now teaches us to look on as being a wise arrangement of Nature in its fight against the invading foe, which has not to be reduced, but to be increased in order to check or to cure the infectious processes. He certainly has demonstrated beyond a doubt that his method is far superior to those formerly in vogue.

IRON AS A THERAPEUTIC AGENT.

Iron ingested is converted into ferratin and stored in the liver and there enters into composition of the hemoglobin of the blood. There is then no fundamental difference whether therapeutically we give iron as reduced iron, Blaud's pills, or tincture of the chlorid of iron or other preparations. It is proved beyond question that inorganic iron can be and is absorbed in the intestines and utilized in the formation of hemoglobin when given in the usual medical doses.

OPHTHALMO TOXIC REACTIONS.

Tuberculin instilled in the eye of a tubercular patient gives a marked congestive reaction, while the eye of a healthy individual gives a much milder reac-

tion. An aqueous solution of typho-toxin in the eye of a typhoid patient produced a marked congestion and lachrymation. The reaction appears to be present earlier than the Widal reaction.

ANTITOXIN AND POSTDIPHTHERITIC PARALYSIS.

It is shown that antitoxin plays no part in producing diphtheritic paralysis, but modifies, and if injected early, will save the life of the animal with post-diphtheritic paralysis.

THE CEREBROSPINAL FLUID IN PARESIS.

An increase of cells in cerebrospinal fluid as obtained by lumbar puncture is found in general paralysis of the insane. Cornell found that in normal spinal fluid one to four cells per cubic millimeter are found and in paresis from twelve to two hundred are present.

CATARACT EXTRACTION.

Surgeon-General Smith, in India, performed 2,616 cataract extractions in the past year, extracting the lens capsule intact. First-class result in 99 per cent. of cases, nevertheless the consensus of opinion favors the old method of rupturing the capsule and an iridectomy.

LEGISLATURE IN ILLINOIS.

The pure food law was passed. A bill was passed that all chronic insane patients be transferred from the county poor houses to the state institutions, thereby insuring proper care and treatment for the same.

The Council on Pharmacy and Chemistry has exposed many frauds and fraudulent methods. Formerly sold commercial black antimony, now sold as anthracite; formerly oil of sweet almonds, now peach kernel oil.

THE AMERICAN MEDICAL ASSOCIATION MET IN ATLANTIC CITY.

Dr. Burrell, professor of surgery at Harvard University, was elected president of the association. The next place of meeting will be in Chicago. The association has done commendable work along the lines of pure drug laws. Much good work has been done along the line of educating the general public in the past year. Laboratory and research agencies are for the benefit of the people. It is therefore their due to be informed on many points and this work lies at the door of the profession. In a word, much can be accomplished by public instruction and co-operation between the medical profession and the public in the matter of research, public hygiene and preventive medicine.

JESSE ROWE, M.D., Abingdon.

A. K. DRAKE, M.D., Macomb.

J. E. CAMP, M.D., Brooklyn.

NORTH CENTRAL ILLINOIS MEDICAL ASSOCIATION.

The thirty-fourth annual meeting of the North Central Illinois Medical Association was called to order by the president, E. P. Cook of Mendota, Ill., Dec. 3, 1907, at the Parish House, Sterling, Ill., the following members being present: E. P. Cook, Butterfield, Wm. O. Ensign, J. F. Dicus, McPherson, Curry, Percy, Keefer, Harms, Dromgohl, Dr. Crosswell (aged 93), and G. A. Dicus. Moved by Dr. Percy that the historical paper of Dr. Ensign of last year, entitled "Medical Organization and the North Central Illinois Medical Association, with Portraits and Sketches of Lives of the Fifteen Original Founders of the Association,"* be sent, together with half-tones of the fifteen members, to THE ILLINOIS MEDICAL JOURNAL for publication and to secure copies of same in pamphlet form for distribution among the members of the North Central at the expense of the association. Carried unanimously. The following four applications were read and referred to the Board of Censors: Arthur Henry Harms, Alexander C. Smith, Chas. G. Beard of Sterling, E. L. Dow of Rock Falls.

* For text of paper see page 269.

Dr. White, of Seatonville, being the only member present of the Board of Censors, the president named Drs. Ensign and J. F. Dicus to act with him. Dr. J. F. Keefer, chairman of the local Committee of Arrangements, reported that there would be a supper for the members at 6 o'clock in the rooms above where we were meeting.

The treasurer's report for the fiscal year ending Dec. 2, 1907, was then read and referred to the Board of Censors for auditing. The Board of Censors reported favorably upon the four applications referred to them. Said report was accepted, and it was moved that the secretary cast the ballot of the association for the four doctors named. Carried. Drs. Arthur H. Harms, Alex. C. Smith, Chas. G. Beard of Sterling and E. L. Dow of Rock Falls were ordered enrolled as active members. Dr. J. F. Dicus of Streator, as member of the Committee on Necrology and Biography, read the following report upon the death of our esteemed member, Dr. B. L. Bonar of Streator, and presented resolutions.

Dr. Barnet L. Bonar, for twenty-five years a resident and general practitioner of Streator, Ill., passed away at his home in that city on Dec. 21, 1907. He was a native of Pennsylvania and was born at Coon Island, Washington County, July 31, 1852, and was thus in his 55th year. The boyhood and youth of Dr. Bonar were passed in his native country and, after completing the common school course, he entered Washington and Jefferson College, where he graduated in 1877. He then took up the study of medicine, reading under the instructions of Dr. Thomas McKennan of Washington. Subsequently he was a student in the medical department of the University of Pennsylvania, at Philadelphia, and was graduated there in 1880. Going to Bucyrus, Ohio, he established an office and was occupied in practice at that point for about one year. In 1881 he came to Streator, where he soon obtained a foothold and gained a desirable reputation for skill and excellence in his chosen field of labor. In order to keep in the spirit of progress and thoroughly conversant with new methods, he was connected with several medical societies, among them being those of the county, state and that of the North Central Illinois Medical Association.

Socially he was a member of Streator Lodge, No. 607, A. F. & A. M.; Streator Chapter, No. 168, R. A. M., and Streator Commandery, No. 70, K. T.; also of the Woodmen. In 1888 the marriage of the doctor and Miss Sarah Modes, a daughter of William Modes, of Streator, was solemnized. They have two children, Jessie and Barnet E.

The Doctor had been ailing for about one year, but gave up his practice about six months previous to his death. His trouble began with great pain in the left shoulder, which he at first attributed to a fall he received in making a night call. He consulted many of the ablest physicians in the Northwest, and yet the diagnosis was masked until the postmortem developed the true cause of his suffering. He had great pain in the shoulder and anterior axillary region, with intense tumefaction of the hand and arm, the latter due to obstructed circulation. After weeks of intense suffering, he calmly and heroically met the issue which he knew was coming. I am sorry to not be able to give the exact microscopic findings; it was thought to be a mixed infection of carcinoma and sarcoma of the lung. Dr. Mix, Dr. Jones and Dr. Evans were given me as authority by Dr. W. L. Smith, who had the case in charge. The immediate cause of death was pulmonary hemorrhage.

Dr. Bonar was a man of great reserve, without ostentation, and yet a man of very warm friendships and a large clientele. He was wholly devoted to his profession, and yet was not as well known to the profession generally on account of his reserve of manner, and his busy, active life often detained him from attendance at medical society meetings. It may be justly said of Dr. Bonar that he was above the average general practitioner in careful diagnoses and faithful service, and left a large family practice in the homes of many to whom he had been the only medical advisor for years. His loss was deeply felt and mourned as one of the household. The attachment which grows up between the family physician and the family in the years can only be broken by the last summons to the world beyond.

I desire to submit the following resolutions:

WHEREAS, Dr. Bonar, an honored member of this body, has been called to his final reward.

Be It Resolved, by the North Central Illinois Medical Society, in session at Sterling, Ill., That this society has lost a useful and honored member; the community in which he lived, a well-qualified, conscientious physician and friend; his family, a kind, loving husband and father.

Resolved, That we extend to his family, widow, son and daughter, our earnest and heartfelt sympathy; that a copy of these resolutions be placed on the minutes of this association and a copy be sent to the family.

Unanimously adopted by standing vote.

The second necrological report of Dr. A. C. Phillips of Apple River by Dr. Frank Anthony of Sterling was not prepared, as no data had been secured.

Dr. Harms presented a neat ribbon badge with N. C. I. M. A., Sterling, Ill., Dec. 3 and 4, 1907, upon it, for the members to wear with the compliments of the City Medical Society.

Adjourned to meet at 1:30 p. m.

Meeting called to order at 1:30 p. m., with sixteen members present. Dr. Butterfield of Ottawa then read a paper entitled "A Few Salient Points in the Early Diagnosis of Pulmonary Tuberculosis." Discussion by Drs. Jane Reed Keefer, Percy, Cook, and Butterfield to close. The application of Dr. Charles A. E. Lesage, of Dixon, was received and referred to the Board of Censors. The Board of Censors reported the books of the treasurer correct.

Dr. T. W. Curry, of Streator, read a paper on "The Treatment of Appendicitis." He claims there is no medical treatment and that every case should be operated so soon as diagnosis is made, regardless of day of disease. Open up, remove appendix, and, in case of pus, narrow gauze drain for thirty-six hours. Discussion by Drs. Murphy, Lesage, Cook, Percy, and Curry to close.

Dr. Percy, of Galesburg, read a very interesting paper on "Some Practical Considerations Concerning the Prostate" and showed many specimens which he had removed. He claims that many prostates give trouble, though not hypertrophied, and that by digital examination we can locate the tender spot which indicates an infection, and in many cases gonorrhea is the primary cause, which was treated by injection and supposed to be cured in 4 to 6 weeks, but instead infected a prostate, only to give trouble later. On observation Dr. Percy remarks that the perverted sexual desire in such cases is overcome by the removal of the prostate, and the question then arose, Is the prostate the cause of the perverted sexual desire or is it senile dementia? Discussion by Drs. D'Orsay Hecht, and Percy to close.

Adjourned five minutes in order that the photographer might secure a picture of members present.

Dr. F. A. Guthrie, of LaSalle, read a valuable paper on "Acute Frontal Sinusitis." He sums it up under four characteristics: always secondary, pain daily and at same time, pain over part affected seems increased by pressure, and responds to proper treatment.

Dr. E. S. Murphy, of Dixon, presented a clinical case of Cretinism. A child, 19 months old, had been under treatment with thyroid for several months and very much improved. D'Orsay Hecht discussed the case, calling attention to the necessity of differential diagnosis from rickets, retarded development, trouble in delivery or congenital syphilis, but in this case the therapeutic test of the thyroid, given in small dose, grains one-fourth to one-half, increased to toxic effect, cleared up the diagnosis.

Dr. Hecht then read an interesting paper on "Deep Alcoholic Injections in Trifacial Neuralgia."

The Board of Censors reported favorably upon the application of Dr. Lesage of Dixon, and the secretary was instructed to cast the ballot for Dr. Lesage as a member and his name was ordered enrolled as a member. A recess of five minutes was declared to secure a nominating committee, which resulted as follows: Bureau County, Dr. White, Seatonville, Ill.; Lee County, Dr. Lesage,

Dixon, Ill.; LaSalle County, Dr. J. F. Dicus, Streator, Ill.; Whiteside County, Dr. Sullivan, Morrison, Ill.; Woodford, Marshall, Putnam, Livingston, Grundy, Kendall, and DeKalb, no representatives. E. P. Sullivan of Morrison reinstated by payment of \$6.00 dues.

The paper of Dr. S. O. Hendrick of Henry was read by Dr. E. P. Cook, "The Physician from a Business Standpoint." Discussion by Drs. Ensign and Thomas Crosswell. Adjourned.

At 6 p. m. the members and invited guests assembled in the dining room of the Parish House, where the wants of the inner man were abundantly provided for by the members of the Whiteside County Medical Society, and a general good time was had. All present were unanimous in their praise of the physicians of Whiteside County as good providers and entertainers. At 8:15 the evening session was called to order, twenty-nine members being present. The Vice-president, Dr. Murphy, presided. Dr. E. P. Cook then delivered the President's address. Subject: "The Trend in Modern Medicine." (For paper see page 308.)

Dr. A. E. Halstead of Chicago read an instructive paper on "The Surgical Treatment of Gastric and Duodenal Ulcer." The majority are in the first two inches of duodenum, 90 per cent. in pyloric third, and majority in females. He made a plea for early surgical interference where medical treatment of 4 to 6 weeks does not give relief. Aside from infection may get malignancy.

Dr. Geo. Paul Marquis of Chicago read an interesting paper on "Infection of the Nasal Accessory Sinuses, Their Diagnosis and Treatment." He gave a description of newer methods of bronchoscopy and showed instruments used.

It was moved by Dr. Ensign, and seconded, that a vote of thanks be tendered Drs. Halstead and Marquis for their most excellent papers, and that they both be made honorary members of this association. Carried unanimously. Moved and carried that the secretary be instructed to drop from the roll, for non-payment of dues, members who, according to Art. 6, Sec. 4, should be dropped.

The Nominating Committee reported as follows: President, E. S. Murphy, Dixon; first vice-president, D. W. Jump, Plainfield; second vice-president, S. O. Hendrick, Henry; secretary and treasurer, Geo. A. Dicus, Streator; Board of Censors, F. A. Turner, Sandwich; J. C. White, Seatonville; J. J. Pearson, Pontiac; W. H. Fraser, LaSalle; H. H. Harms, Sterling; Committee on Necrology and Biography, F. C. Robinson, Wyandot; J. F. Dicus, Streator; Frank Anthony, Sterling; J. M. Kaiser, Somonauk; James Tweddale, Washburn. The report was received and it was moved and carried that the secretary of the Nominating Committee, Dr. White, cast the ballot of the association for the officers for 1908 as named by the committee, which he did, and they were declared elected.

The following resolution was then read by the secretary of the Nominating Committee and unanimously adopted:

STERLING, ILL., Dec. 3, 1907.

The North Central Illinois Medical Association, in meeting assembled, desire to express to their medical brethren of the Whiteside County Medical Society their thanks and appreciation for the kindness shown them while here, and the delicious supper, which was so heartily partaken of by every member present, and to the ladies of the Episcopal Church and also to the citizens of Sterling. Committee, White, Ensign, and Dicus.

The program being completed and there being no unfinished business, the installation of officers was next in order. Drs. J. F. Dicus and Keefer were appointed by the Chair to escort Dr. Murphy to the platform when he was duly installed as president for 1908. At 9:55 p. m. adjourned to meet Dec. 4, 1908.

The meeting, while wanting in numbers, due probably to being in the extreme northern part of the district, was not lacking in interest or quality, as everybody present felt they had been royally entertained, as the local physicians gave freely the warm hand of fellowship and exceedingly interesting and valuable papers were presented.

THE EVOLUTION OF UTERINE FIBROIDS.

WHY AND WHEN SHOULD WE OPERATE—THE PAST AND PRESENT STATUS OF THE PROFESSION ON THIS QUESTION.

Report of Cases.

F. C. ROBB, M.D., FARMINGTON, ILL.

(Abstract.)

Uterine myoma are the most common tumors of the uterus; occur generally during period of reproductive activity; etiology is doubtful; single or multiple; usually slow in growth; hard or soft; white or pinkish in color; circumscribed with a loose capsule. According to the histological facts they are variously termed myofibroma, fibromyoma and fibroma.

The author classifies the tumors as follows: Intramural, with symmetrical and non-symmetrical enlargement of the uterus; sub-mucous and sub-peritoneal, single or multiple, with or without pedicle; the cervical myoma, which is somewhat misleading, and could be better understood by referring to these growths as being corporal and cervical; the general classification applying to either segment.

Cervical myomata are thought to have been originally corporal and subsequently gravitated toward the lower segment. The author illustrates this with a specimen. The most disastrous features of these tumors is the lack of symptoms, and their apparent innocence in their incipency. This is true except in the sub-mucous variety, which usually gives earlier evidence of its presence. More often the tumors are discovered by accident, whereas earlier discovery would make their removal a matter of simple procedure. Very often these tumors disappear with the menopause.

The complications which may be met with in the evolution of the myomata are pressure on other organs from size or location, complications in pregnancy, infection, disintegration of tumor from injury or twisted pedicle, hemorrhage, strangulation of other organs by a long pedicle, fatty, mucoid, calcareous, cystic and malignant degenerations, with the adhesions due to the various inflammatory reactions. The most active period of these growths is during the period of reproductive activity; therefore the deduction would be that they are stimulated by menstruation, venery, gestation and lactation, and would be inhibited at the menopause.

Search should be made for these tumors at every occasion of a pelvic examination, especially in pregnant cases. In all cases of uterine hemorrhages of doubtful origin, pelvic congestion, hemorrhoids, pressure, traction, pain, discomfort, and vague miscellaneous symptoms, referred to the pelvic region, it should be our duty to secure a systematic examination. When a diagnosis is made what shall be our position? If this question should be asked, specifying certain complications with their threatening dangers, as above enumerated, the answer could not but be unanimous in favor of above measures; but with small innocent appearing growth the question is different, and admits of interesting discussion.

The author reviews the literature on myomata and shows the evolution from a chaotic knowledge to the present status of the treatment. After reviewing the literature thoroughly the following conclusions are given:

First.—Every woman with myomata is in the line of danger that follows in the wake of these growths; the degree of danger might be divided into three classes: 1, Married women during the period of sexual activity and child bearing; 2, unmarried women up to the menopause; 3, women, married or unmarried, after the menopause.

Second.—It is a simple procedure, giving the lowest possible mortality, and the greatest chance to conserve the reproductive powers.

Third.—We avoid all the serious complications and degenerative changes.

Fourth.—The good results obtained from early operations lessen the odium of surgical procedures.

Fifth.—Hopes of spontaneous cures bring delay, disastrous and dangerous.

Sixth.—Palliative treatment has no place, except where surgical means are contraindicated.

Seventh.—The confusion in differential diagnosis of myoma is, in most cases, with surgical conditions, and the patient receives the benefit of definite knowledge and positive treatment.

The author then reported the following cases:

CASE 1.—Mrs. S., age 47, large, portly woman; family history negative; mother of two children; began menstruating at age of 13; menstruations always regular, but very profuse; nine years ago complained of vague pelvic symptoms; examination at that time revealed small tumor on anterior aspect of body of uterus, just above fundus of bladder; no special treatment was instigated; three years later was examined, and was told that her os was growing up; since then she has had dysentery and vesical irritation, with dribbling of urine; about three months ago I was asked to prescribe for her for excessive flowing, which had continued for thirteen days; I refused to prescribe without an examination, which I obtained, and found her very anemic; a physical examination revealed a large mass wedged deeply in the pelvis and immovable. I advised an operation, which was consented to; after thirteen days' preparation, with the Ochsner diet and hematic tonics, she being a very corpulent woman, I did an operation, hysteromyotomy, removing the specimen which I present.

CASE 2.—Mrs. J., age 45, mother of three children; family history good; first noticed tumor about seven years previous; consulted physician, who said she had fibroid of the womb; gave her black nasty medicine, which smelled like ammonia; took it for a year, but tumor kept growing, so quit. Consulted another doctor, who used electric needles, but they did no good; has taken no treatment since. On examination I found a large cystic tumor, distending abdomen; part of cyst wall was calcareous, under which the finger could be pushed; an exploring needle through the abdomen wall gave a characteristic grating sensation. Condition of patient rendered the case inoperable.

CASE 3.—Mrs. M., age 70; history negative; mother of seven children, all living. Has had a lump in the bowels for forty years; never bothered much, only when it got fast and caused constipation, until two years ago, when it began to grow and became sore. July 1 I made an examination, which revealed a solid, movable mass in right inguinal region; patient was cachectic, weak and constipated. An operation was requested by her, which I, at first, refused, as I feared malignant degeneration; but as she insisted I consented to make an exploration, which I did, finding a myoma, subperitoneal with pedicle, attached to posterior aspect of body of uterus, in an advanced stage of malignant degeneration, with secondary involvement of mesentery and omentum, to an extent rendering it inoperable.

CASE 4.—Mrs. K., age 75, sustained intercapsular fracture of hip, which was dressed; patient did well for one week, when she began to complain of severe pain in abdomen, with obstipation. I made an examination and found a mass in pelvis, which had the characteristics of a myoma; on inquiry I learned that she had been treated some years previously by an osteopath for tumor, which she said was rubbed away. The obstruction proved fatal, and postmortem revealed a large myoma incarcerated in pelvis, with knuckle of bowel, pinched by the tumor, and strangulated by adhesion.

CASE 5.—Mrs. H., age 52; family history negative; mother of eight children; first noticed growth in abdomen nine years previously; was treated with ergot, growth apparently disappearing, until four years later, when it again began to cause trouble; was treated with ergot again, but the growth did not disappear and seemed to remain about the same size; three years later growth began to enlarge rapidly until the abdomen was much distended. Physical examination revealed a large cystic tumor; patient cachectic and much emaciated; diagnosis cystic degeneration of fibroids, with suspicion of malignancy; operation was advised, which was consented to; the result of which revealed a large cystic fibroid with malignant degeneration of uterus, rendering removal impossible.

FOURTH NORMAL PREGNANCY FOLLOWING INTRA-ABDOMINAL SHORTENING OF THE ROUND LIGAMENTS, REMOVAL OF ONE OVARY AND RESECTION OF THE OTHER OVARY.

ANNA M. BRAUNWRATH, M.D., CHICAGO, ILL.

(Abstract.)

Among the important problems which the gynecologists are trying to solve are: On resection of the ovary what is the smallest amount of healthy ovarian tissue which must be left in order that pregnancy may occur? In operations for retroversion and retroflexion during the child bearing period, what method is safest for the mother and child in pregnancy and labor?

In regard to the first question, it would seem that no matter how small the fragments of healthy ovarian tissue left, other conditions being normal, pregnancy may occur. Several authors have reported pregnancy after resection of the ovary. Interesting in this connection is the following case of "Heteroplastic Ovarian Grafting, Pregnancy, and Delivery of a Living Child," reported by Dr. Robert T. Morris, at the New York Academy of Medicine, April 6, 1906 (*The Journal, A. M. A.*, vol. xvi, page 1310). The author relates the history of the above case, which shows how a patient was operated for the removal of both ovaries with the implantation of a wedge shaped ribbon of normal ovary from another patient, subsequently resulted in normal menstruations and pregnancy and the birth of a 7¼-pound child at full term.

In regard to the results of cure for retroflexion and retroversion, the author described the following case, which she had previously reported: "The patient, Mrs. P., came complaining of pain in the lower portion of the abdomen since the birth of her child, seven years before. This pain was worse during the menstrual periods. On examination, the uterus was found retroverted, the ovaries tender and painful. An operation was advised. On Feb. 17, 1902, I operated upon her. When the abdomen was opened, there was found a retroversion of the uterus and cystic degeneration of the ovaries, the right ovary which was completely diseased, was removed, the left ovary was resected, only a small piece of healthy ovarian tissue, about the size of a pea, was left. The round ligaments were shortened intra-abdominally. The patient's recovery was uneventful. Before she sat up an Albert Smith pessary was introduced, with the instructions that it should be worn six months. In September, seven months later, the patient returned complaining of persistent vomiting. On examination she was found to be pregnant. The pessary was removed and the vomiting ceased. On March 16, 1903, thirteen months after the abdominal section, I delivered her of a full term male child which weighed 11 pounds; the labor was normal; it lasted three hours. The mother's recovery was good. On Dec. 7, 1904, this patient gave birth to a daughter; labor was normal. Again on March 4, 1906, she gave birth to a son; this labor also was normal. On March 22, 1907, I delivered her of a healthy 10½-pound boy; the labor lasted about two hours. This makes the fourth normal pregnancy and labor since her operation five years ago. When last examined in May, 1907, the uterus was in a normal position.

SUMMARY.

First.—Here was a case of cystic degeneration of the ovaries and retroversion of the uterus. The round ligaments were shortened intra-abdominally, one ovary was removed, and the other was resected, only a small piece of ovarian tissue the size of a pea being left.

Second.—Within four months after her recovery from the operation, the patient became pregnant and was delivered of a full-term child. The labor was normal.

Third.—Since the operation, five years ago, this patient has given birth to four healthy, full-term children. Each time labor was normal and short in duration.

Fourth.—The shortening of the round ligaments intra-abdominally interfered in no way with the carrying of these four children to term, or with their delivery.

LABORATORY DIAGNOSIS.

E. T. MANNING, M.D., PRAIRIE CITY, ILL.

(Abstract.)

The author outlines the methods used in laboratory diagnosis which, in his experience, have been found most practicable. Accuracy is one of the first requisites in any laboratory test. The following tests are mentioned:

First.—Examination of the sputum for tubercle bacilli or other important micro-organisms.

Second.—Examination of the urine. The specific gravity, reaction, tests for albumin, Heller's nitric acid test and boiling with addition of acetic acid, tests for sugar, with Fehling's or Haines' solution, urea, with sodium hypobromite solution in the Doremus ureometer. In those cases where quantitative estimation of albumin is desirable the Esbach instrument is used. In examination of the sediment in urine there are unorganized and organized products to be considered, the first of which is easily recognized by the reaction tests, although in general their presence is of little importance. Next to the albumin and sugar tests it is with the organized sediments that the importance of the urine examination rests. The principal organized structures to be looked for are tube casts, epithelial cells, pus corpuscles, red blood corpuscles, spermatozoa, and bacteria. If the observer thinks he can recognize tube casts with a mere cursory examination he is very much mistaken. It is one of the most difficult examinations made in the laboratory to draw a sharp dividing line between the different varieties of tube casts, and also one of the most important facts to determine in a large number of diseases whether there is present not only hyalin or granular casts, which in most cases have but little significance, or whether there is evidence of degeneration of kidney structure as shown by the presence of epithelial or blood casts. It is not always necessary to centrifugalize the urine to detect the presence of casts. If the urine be allowed to stand for three or four hours in a conical glass the casts can be detected if they are in any amount; a little acetic acid must be added to prevent the urine becoming alkaline as the casts soon dissolve in an alkaline medium. Various bacteria are always present in decomposing urine and in the urine of cystitis. In some infectious diseases, notably typhoid, the specific micro-organisms appear in the urine. Ordinarily no attempt is made to identify any except the tubercle bacillus and the gonococcus.

Third.—Blood: The routine blood examination may consist of the estimation of hemoglobin, the counting of the erythrocytes and leucocytes, and the examination of fresh and stained smears. Some little practice is required to make a reliable blood count although it is not nearly so difficult a matter as it at first appears. Where the diagnostic skill is required is in the interpretation of the stained and unstained smears. For blood stains I have found those of Wright or Jenner to be the most practical, as they do not require fixation.

Of the diseases in which the laboratory diagnosis is of value, the author mentions anemia in its various forms. In cases where it is suspected, or in all doubtful cases, examination of the blood should be made. Malaria diagnosis is made positive by the finding of the parasite. This is best done before quinin has been advised. Until recently it was necessary to make a microscopic examination to perform the Widal test for typhoid fever. Now with the typhoid agglutometer the test is much simpler and equally reliable. However, much may be learned from microscopic examination of urine and feces. I have seen one case of typhoid where the typhoid bacilli appeared in the urine three days before rose spots appeared or the Widal became positive. In this disease also the diazo reaction is indicative although it has by no means the diagnostic importance of the agglutination test.

Urinalysis is important in nephritis from the standpoint of diagnosis and prognosis. Routine examinations are of considerable value, especially following infectious diseases and suspected cases of nephritis in pregnant women. It is important to know the amount of urine voided in twenty-four hours because the

urea estimation is valueless without this. Skin diseases, especially parasitic varieties, may be diagnosed with microscope. The Klebs-Loeffler bacillus in a stained smear from the throat is less reliable than the culture. Urethral discharges should always be examined for the presence of the gonococcus.

As to relative advantages of a laboratory diagnosis the author believes that there is a middle ground between the two extremes of the group of physicians who opinion the truth of the matter lies midway. Any modern physician knows that the day of the man who could look in the door of the sick room, 'have a hunch,' and name the disease, is past, never to return. It is just as unreasonable to put entire confidence in laboratory results and the other group who have no confidence in laboratory methods of diagnosis. He states in conclusion: "In my expect that a diagnosis be any nearer correct when made fifty miles from the patient by an examination of urine, no matter how thoroughly done. This brings me to the one point I wish to make, that the laboratory diagnosis is of no value without a thorough knowledge on the part of the observer of all clinical symptoms connected with the case. Consequently the conclusion is plain that the laboratory result will be of most importance if the clinician has performed the test himself.

Laboratory results, then, are of value and of great value to the man who has carefully analyzed all the clinical history of a case and who is able to make the laboratory tests fit in with the symptoms and course of the disease, not because he reads that this result comes in this disease, but because he is able, as far as our knowledge of pathologic physiology extends, to understand and correlate the clinical symptoms and laboratory results.

RACE SUICIDE.

ELIZABETH R. MINER, M.D., MACOMB, ILL.

(Abstract.)

The American nation of native born people is losing ground. The population is maintained by immigrants and their progeny. It has been estimated that four births are required in each family to keep the population of a country stationary. The number of births in the American family has fallen from 4.5 to 2.5. There is a greater percentage of nulliparous women; these latter occur chiefly in the more intelligent classes. The reason for childless conditions are: First, late marriages with consequent greater suffering at parturition, enhanced by the fear of such conditions, which is taught to the daughter by the mother. Second, the consequences from illegitimate practices for preventing conception; an unnatural local congestion which leads to oophoritis, endometritis, leucorrhea, dysmenorrhea, metrorrhagia, cancer of the uterus and sterility. Conditions produced, not willingly, but because of the desire on the part of the women to delay child-bearing period. Third, the struggle for position and the increased cost of living is driving many families to a prevention of conception. Fourth, women who are not capable of reproduction.

There are many causes for this. Non-development of the reproductive organs forming the infantile uterus and rudimentary tubes is one cause. Lately the opinion has been advanced that this non-development is the result of vulvovaginitis in childhood which was likely gonorrheal. Retroversion is another cause of sterility. This is not an absolute cause, but the great majority of women with retroversion do not become pregnant. If a pregnancy should occur and the retroversion persists, it may cause an abortion, or worse yet, an incarcerated uterus.

To produce a child, there must be: First, a free passage into the uterus. Second, a healthy ovule. Third, a free passage for the ovule from the ovary to the uterus. Fourth, a healthy endometrium which shall receive the impregnated ovule and hold and nourish it. Fifth, there must be a healthy spermatozoon. Dr. Hagner, a genitourinary specialist of Washington, D. C., insists, according to Joseph Tabor Johnson in the *Journal American Medical Association* of August 10, 1907, that "one-sixth of the unfruitful marriages are the result of sterility in the male, and have been caused by gonorrhea." This per cent. is alarming.

Not only as to the direct result of this disease on the male, but also when we remember that its ravages are much more disastrous in the female, must we consider that here is the cause which is such a peril to the nation, prohibiting its propagation and imperiling its position.

Syphilis, the great venereal disease, deforms a child or causes its miscarriage, but gonorrhea prevents conception. About 20 per cent. of all conceptions end in abortion. A number of these are caused by disease or natural causes, but many more than we like to think of are caused by the pregnant woman herself. The women of our country have not been taught that an abortion is a crime, especially an early abortion. Many of them think that if the fetus is disposed of before quickening occurs, they are happily rid of a very troublesome burden and no harm has been done. It is often impossible to convince them that a life is a life from the minute of conception, and in destroying it they are destroying a living being just as much as if they had waited until after the hour of birth and killed the child then. Physicians who are required at time to empty the uterus to save the mother's life, and who use all the careful antiseptic precautions which are necessary to properly do this, shudder at the means these women take to terminate the pregnancy. Women have told me personally that they have used hairpins, sharp-pointed sticks and old penholders for this purpose. This ignorant and septic manner of interfering with the rights of Nature, demands attention, and she usually responds asking the highest penalty, death; or failing that, making the woman a hopeless invalid by the extension of the poison introduced to the delicate tissues of the tubes, and so taking from her any farther chance for the crowning glory of womanhood, that of becoming a mother. The woman usually sees her folly after a time, and, too late, fervently longs for a child as much as she formerly dreaded its coming.

There are only two reasons why an abortion should be induced. The first is to save the mother's life, and the second, to save her from helpless invalidism. The first reason is the one most frequently twisted from its real meaning, and under which these physicians shield themselves. There may be an aggravated case of "morning sickness," enough to make a woman uncomfortable the greater part of her time, but if her health is not becoming seriously undermined, and that fact must not be judged by the patient's statements, but by the physician's best judgment, we are not justified in disturbing the pregnancy. Hemorrhage during the pregnancy, unless severe, is not an absolute indication for its termination. Last November I had a case of profuse hemorrhage in a woman five months' pregnant. She was immediately put to bed and given uterine sedatives, etc. The hemorrhage did not entirely cease, there was a little every day, but by care the uterine contractions were kept down until January 1. At that time a three-pound living child was born, and although very weak at first, is now a strong, healthy boy weighing eighteen pounds. The mother is well and healthy too.

Since the whole trouble lies in the prevention of conception and the induction of abortion, if these two things are dependent on the health of our people they must be well considered. If laws will regulate the purity of our people we must have such laws; if education, it is our duty as the guardians of the health of our communities to champion and promote this in every way possible. If the trouble is not so much in the health of the individuals as in the selfishness, love of display and desire for position and wealth, we can only wait for time and the proper education to obliterate these false standards and make this a land of "households full of happy children."

PEORIA CITY.

The Peoria City Medical Society was called to order by the president, Dr. C. U. Collins. The roll-call of officers found Drs. Collins, Kelly, Kanne and Bacon present. The minutes of the previous meeting were read and approved. The application of Dr. W. T. Trewyn was balloted upon and he was elected to membership. The applications of Drs. O. F. Thomas and H. V. Thomas of Chilli-cothe were read and referred to the board of censors. A statement was read to the

effect that Dr. J. S. Miller had been a member of the society since 1877, and by unanimous vote he was elected to honorary membership. A letter to the society from Mrs. Ida R. Waln was read thanking the members for their sympathy and their floral tribute at the time of the death of Dr. J. R. Waln. Dr. Collins announced that a telephone would soon be installed for the use of the members.

The scientific program consisted of a discussion by the doctors and druggists of the city of their differences and ways to overcome them. Mr. Singer of the National Retail Druggists' Association and Mr. Harseh, Mr. Rowcliffe, Dr. Sprague and Mr. Lilly of this city spoke in behalf of the druggists. The doctors who continued the discussion were Gelder, Hinckle, Barbour, Gillespie, McFadden, Davis, Short, Kanne, Stiers, Dowdall, Bacon and Colling. The gist of the discussion from the druggists' standpoint was the necessity of the doctors being better acquainted with the U. S. P. preparations. A move has recently been made in the form of a national propaganda that will lessen the number of drugs carried by the druggists and insure a uniformity of preparation whenever prescribed. They claim that counter-prescribing was practiced in retaliation for dispensing done by the doctor and the refilling of prescriptions was very seldom practiced, and could be avoided entirely if doctors would write "not to be refilled" on the prescriptions. A "square deal" prescription blank was shown which had a sticker put on it by the druggists whenever "non-repitu" was placed on the prescription. It came out in the discussion that all conditions existed among the doctors from an entirely prescribing to entirely dispensing drugs. The benefits from prescribing were claimed to be a better looking and more palatable mixture, a saving of the time of the doctors and a saving of the amount of money tied up in drugs and a greater liability of the patient getting what he needed rather than getting what the doctor might have on hand at the time he called. The benefits arising in the dispensing of his own drugs was that the doctor had a better control of his patients, that the return of the patient was insured, that a prescription of his remedy will not be given to the neighborhood, and that he would be able to keep the profits on the drugs for himself. The chief claims against the present practice of the druggists were counter-prescribing, refilling of prescriptions and allowing their names to be used by patent medicine advertisements in newspapers and the exhibition of numerous "cure alls" on their counters where all the patients can see them. A better knowledge of the N. F. and U. S. P. was urged. There were twenty-seven members present.

DR. J. H. BOEEN, Secretary.

ROCK ISLAND COUNTY.

The February meeting of the Rock Island County Medical Society was held at the Manufacturer's Hotel in Moline February 11. After supper the program was taken up as follows: Dr. Lamping reported a case that at one time simulated acute muscular atrophy, but which had recovered under anti-syphilitic treatment. Dr. Minnick reported a case in which a placenta had been retained in utero for seven months after the expulsion of a macerated fetus. Dr. E. Sargent read a paper on the Diagnosis and Treatment of Fractures of the Femur. The paper was discussed by Drs. Sala, Comegys, Johnson, Hall and Asay. It was moved and carried that McPhil Mitchell of Rock Island be requested to demonstrate his pneumatic splint at the next meeting. A motion was carried to appoint a committee to present complete data, at the April meeting, in regard to the law just passed authorizing cities and villages to establish and maintain sanitariums for the treatment of tuberculosis. Dr. First, Dr. R. C. J. Meyer and Dr. Sala composed the committee. The names of Dr. B. E. Jones and B. J. Lachner were proposed for membership. The usual bills were allowed and the society adjourned. Members present: Drs. Hall, Comegys, R. C. J. Meyer, Youtz, Lamping, Sala, Minnick, Sargent, Williams, Asay, Johnson, Freytag, O'Hern and Snively. Visitor, Dr. B. J. Lachner.

VERMILION COUNTY.

The Vermilion County Medical Society met February 10 in the City Hall, Danville. Dr. Robert Clements was elected to membership. A communication

was read from the Morgan County Medical Society regarding the subscribing of a specified list of current medical journals, same to be indexed by them, for approximately \$125.00 per year. A committee was appointed to secure subscriptions for such fund.

Program: Appendicitis, Non-operative Treatment, by Rachel Cooper; La-Grippe, by Leroy Jones. Both subjects were well presented and brought out an interesting discussion. Dr. Crist presented a microscopic section of malignant destruction of the nose followed by death. Drs. F. N. Cloyd and Walton reported cases of diphtheria. Dr. R. A. Cloyd reported two cases of erysipelas. Dr. G. L. Williamson reported a case in which, on making a vaginal examination, he felt some sharp point, and later removed a hairpin that one year before had been inserted into the uterus and had later penetrated down, protruding nearly through the cul-de-sac of Douglas.

E. E. CLARK, Secretary.

WABASH COUNTY.

The regular meeting of the Wabash County Medical Society was held at 4 p. m., January 28, at Dr. Schneck's hall. Meeting called to order by president, Dr. R. J. McMurray. Members present, Dr. R. J. McMurray, St. Francisville; Dr. C. E. Gilliatt, Allendale; Drs. J. B. Marvell, S. W. Schneck, and W. E. Mercer, Mt. Carmel; visitors, Dr. J. P. Ramsey, of Vincennes, Ind.; Dr. J. E. Smith and Dr. J. F. Inskeep of Mt. Carmel, and Dr. J. L. McIntosh, Allendale. Dr. J. P. Ramsey read a very interesting paper on "Tuberculosis," presenting modern ideas of treatment, and control of same, with especial emphasis on the establishment of sanitariums under state and municipal control, and the education of patient and public. The paper was generally discussed by all present. Dr. W. E. Mercer was elected as auxiliary member of the legislative committee. Drs. R. J. McMurray, S. W. Schneck and W. E. Mercer were elected as board of censors. On recommendation of committee, Dr. J. J. McIntosh of Allendale was elected to membership. Immediately following adjournment a seven course supper was served, to which all did justice.

NOTICE TO SECRETARIES OF COMPONENT SOCIETIES.

The second annual conference of the secretaries of the various component societies of the Illinois State Medical Society will be held at the next meeting of the society at Peoria. An interesting and practical program has been prepared, and all interested are invited to attend and participate in the discussion of the papers. Secretaries are particularly invited to bring with them the story of their success or trouble.

Samples of printed matter, programs, invitations, etc., will be on exhibition and the conference made as profitable as possible. Secretaries, make your plans to be present. Members, see that you have a representative at the meeting.

C. HUBART LOVEWELL, *Chairman*, Chicago.

D. G. SMITH, *Secretary*, Elizabeth.

NEWS OF THE STATE.

PERSONAL.

Dr. Edward B. Hughes, Canton, is still seriously ill.

Dr. and Mrs. Casey Wood, Chicago, sailed for the Orient February 6.

Dr. Ralph H. Herbert, Poplar Grove, is seriously ill with pneumonia.

Dr. Frank Billings and daughter, of Chicago, sailed for the Mediterranean February 18.

Dr. Edward A. Wiener, Pekin, was seriously injured in a runaway accident February 10.

Dr. Augustus K. Van Horn, Jerseyville, sustained painful injuries in a runaway accident January 30.

Dr. William Richards, Colfax, who has been seriously ill with pneumonia, is reported to be improving.

Dr. Henry W. Berard, of Chicago, was assaulted and robbed of his watch and \$40 in currency January 27.

Dr. William L. Baum has been chosen as medical member of the retiring board for members of the fire and police departments.

Dr. John J. Mahoney, of Chicago, slipped and fell on the icy pavement near his home, February 12, breaking his right leg below the knee.

Dr. John W. Webster, Monmouth, completed his fiftieth year of practice February, when he was a guest of honor at a large dinner party.

Dr. A. I. Bouffleur has been elected a member of the consulting staff of the Cook County Hospital to fill the place made vacant by the death of Dr. Nicholas Senn.

Dr. J. F. Percy, of Galesburg, during convalescence from injury while cranking his automobile, has gone to Egypt and the Nile for a vacation trip lasting until April 16.

Dr. O. H. Christ, Danville, has been appointed a member of the staff of St. Elizabeth's Hospital, local surgeon for the Chicago Southern Railroad and assistant local surgeon of the Chicago Eastern Illinois Railway.

NEWS ITEMS.

By a collection in the Evanston churches, February 9, about \$5,000 was realized for the Evanston Hospital.

The concert for the benefit of the Frances Willard Hospital, Chicago, January 28, netted \$1,000 for the institution.

At the ball February 1 at the First Regiment Armory for the benefit of the new People's Hospital, Chicago, about \$2,500 was realized.

Plans have been made for the new brick isolation hospital for Peoria, to replace the building recently burned.

St. Francis Hospital, Evanston, during 1907 treated 275 patients; 93 were charity patients, 84 part-pay patients, and 98 pay patients.

The Sisters of St. Margaret have completed plans for the erection of a new hospital building at Spring Valley to cost from \$15,000 to \$20,000.

The Willow Bark Dipsomaniac Institute at Danvers, ten miles west of Bloomington, was destroyed by fire January 17, loss \$10,000. Thirty patients escaped from the building unharmed.

In the case of E. L. Wilson vs. Dr. James A. Marshall, Pontiac, who is alleged to have made false representations to the plaintiff in order to get him to submit to a surgical operation, the jury on January 26 brought in a verdict for the defendant.

On February 7 nineteen milk dealers in Chicago were fined by Municipal Judge Sadler in sums varying from \$5 to \$25; of these seventeen were accused of selling milk below the standard required by law, and two of keeping insanitary milk depots.

The Chicago City Council has passed an ordinance designed to put all undertakers under control of the Health Department. This was done partly to put a stop to the disgraceful traffic in "bodies" carried on by undertakers and the police in the past.

The annual report of St. Anthony of Padua Hospital shows that 1,535 patients were cared for at that institution in 1907. The projected new building will, it is expected, be completed this year and will more than double the capacity of the institution.

According to an automobile directory of the licenses issued in the State of Illinois up to Nov. 30, 1907, not less than 375 physicians are using this means of locomotion in the pursuit of their professional duties. The probability is that the number is much larger, as a great many medical men have not used the title in applying for licenses.

A meeting of colored people of Chicago was held February 9, at which an organized movement was begun to check tuberculosis. Dr. A. W. Springs was elected president; Dr. Augustus W. Mercer, vice-president; Dr. A. Wilberforce Williams, secretary, and Dr. George C. Hall, treasurer.

Mrs. Zoe Bernhardt, wife of Dr. Carl Bernhardt, of Rock Island, and daughter of Dr. John O. Ohlshauser, of Davenport, died at her residence in Rock Island, Jan. 27, 1907, in her fifty-eighth year. Mrs. Bernhardt had resided in Rock Island for thirty-five years and was a devoted wife and mother. She leaves, beside her husband, one son, Dr. Carl O. Bernhardt, and three daughters.

Busts of Dr. Robert L. Rea and Dr. William E. Quine were presented to the College of Physicians and Surgeons, February 1. Dr. Alexander H. Ferguson made the introductory address. The bust of Dr. Rea was presented by Dr. Frank Billings and accepted for the college by Dr. Oscar A. King. Dr. William A. Pusey presented the bust of Dr. Quine and it was accepted for the college by Dr. D. A. K. Steele.

Five unlicensed practitioners of Madison County were arrested at

Edwardsville, January 20, on the charge of practicing medicine without a license. Mary Wedig, Granite City, was found not guilty; Emma Howe secured a continuance of her case; John Loh and William Stelzer, Alhambra, gave bonds but did not appear in court and their bonds were forfeited; and Peter Hudson, a negro, of Venice, is said to have been fined \$20.

MEDICAL SOCIETY NOTES.

Every eligible physician in Monroe County is a member of the state society. Eighteen out of the nineteen practitioners in that county are members.

Dr. Joseph Zeisler delivered a public lecture in the Chicago Public Library Building on Saturday evening, February 13, on the subject, "Increasing Interest in Leprosy."

Dr. J. W. Pettit, of Ottawa, delivered a public lecture in the Public Library Building, Saturday evening, February 29, 1908, on the subject, "Tent Treatment of Tuberculosis," illustrated with stereopticon views.

The Chicago Ophthalmological Society has elected the following officers for the ensuing year: President, Dr. Thomas A. Woodruff; vice-president, Dr. Charles P. Pickard; secretary-treasurer, Dr. Mortimer Frank; counselor, Dr. Thomas Faith, and alternate, Dr. Willis O. Nance.

A meeting of the Physician's Club of Chicago, was held at the Great Northern Hotel, Friday evening, Feb. 14, 1908, at 6:30 o'clock. Dr. John M. Dodson presided. The subject of the evening was "Mental Therapy." 1. "Mental Therapeutics from the Psychologist's Point of View," Dr. James Rowland Angell, professor of psychology, University of Chicago. 2. "Religious Psychology," The Rt. Rev. Samuel Fallows, Bishop of the Reformed Episcopal Church, Chicago. 3. "Suggestive Therapeutics," Harold N. Moyer. 4. "Subconscious Therapeutics," Joseph Jastrow, professor physiology, University of Wisconsin. 5. Discussion, Drs. Hugh T. Patrick, James G. Kiernan, L. Harrison Mettler.

The following members from the Chicago Medical Society have been appointed as Committee of Arrangements for the session of the American Medical Association to be held in Chicago, June 2 to 5, 1908: Chairman, Dr. M. L. Harris, 100 State Street; secretary, Dr. R. R. Campbell, 100 State St.; Dr. H. B. Favill, 100 State Street, president of the Chicago Medical Society; Dr. W. L. Baum, 103 State Street, president of Illinois State Medical Society. The following members are also chairmen of the various subcommittees specified: Finance, Dr. Frank Billings, 100 State Street; halls and meeting places, Dr. Hugh T. Patrick, 34 Washington Street; hotels, Dr. L. L. McArthur, 100 State Street; receptions at railway stations, Dr. J. H. Stowell, 103 State Street; entertainments, Dr. T. A. Woodruff, 72 East Madison Street; bureau of information, Dr. J. V. Fowler, 312 Grand Avenue; clinics, Dr. A. J. Ochsner, 710 Sedgwick Street; scientific exhibit, Dr. E. R. LaCount, 6026 Monroe Avenue; printing, badges, etc., Dr. C. P. Caldwell, 4425 Michigan Avenue; alumni meetings, etc., Dr. R. T. Gillmore, 103 State Street.

The *Bulletin* of the Chicago Medical Society reports in detail a joint conference of the Chicago Medical Society and Free Dispensaries in Chicago. This conference is the outgrowth of a very considerable amount of work on the part of the committee on the abuse of Medical Charities of the Chicago Medical Society. The report of that meeting, found below, illustrates the great good which may be obtained from the proper regulation of dispensaries in Chicago.

A JOINT CONFERENCE OF THE CHICAGO MEDICAL SOCIETY AND FREE
DISPENSARIES IN CHICAGO.

At a joint meeting of the Chicago Medical Society and representatives from about twenty-one free dispensaries located in Chicago, which was held at the Northwestern University Building, Sunday afternoon, Feb. 16, 1908, at 3 o'clock, the following were present: Drs. N. M. Eberhart, Frederick Tice, C. S. Williamson, Alex. C. Wiener, A. M. Corwin, George F. Shears, Burton Haseltine, L. A. L. Day, J. M. Dodson, H. A. Hadley, Sidney Kuh, Elizabeth N. Brady, I. A. Abt, J. M. Hall, W. M. Thompson, F. M. Conlin, E. A. Gray, H. B. Favill, Rachelle Yarros, William F. Schaare, Mrs. J. L. Fulton, Mr. J. Newton Roe, H. S. Burkhardt, S. L. Sulzberger, Alex. M. Wilson, Louis R. Curtis, Charles T. Gerrard, representing the different dispensaries; Drs. T. H. Renn, D. A. K. Steele, Edward H. Ochsner, representing the committee from the Chicago Medical Society; Dr. E. L. Kenyon, representing the Committee on Abuse of Medical Charities from the West Side Branch, and Ernest P. Bicknell, superintendent of the Bureau of Charities.

Henry B. Favill, president of the Chicago Medical Society, was selected as chairman of the meeting, and Robert T. Gillmore, secretary.

The chairman made a brief statement of the objects of the conference, and in doing so brought up the following questions:

First, Does an evil in the way of an abuse of medical charity exist? Second, if such an evil does exist, how can we proceed to correct it? In the course of his remarks he stated that the dispensary and hospital evil had grown up gradually and insidiously, without any one being responsible for it. The Chicago Medical Society being in a position to recognize this abuse, it naturally coming under their observation, did not desire to call attention to it from a selfish motive, although it directly affects the incomes of the medical profession, but rather from a public standpoint, and, therefore, did not wish to avoid their responsibility in the matter.

Dr. T. H. Renn, chairman of the Committee on Abuse of Medical Charities of the Chicago Medical Society, made the following report:

Mr. Chairman and Gentlemen:—In April, 1906, the original committee was appointed to investigate the abuse of medical charities; it was instructed to cooperate with Mr. Bicknell, superintendent of the Chicago Bureau of Charities, and report back to the council any abuses which were found to exist, with the recommendation of the committee.

The plan of operation carried on by the committee was this: A blank form was sent by mail to each dispensary to be filled in by the proper official. Later a representative of the Bureau of Charities called at the institution and verified the report, if one had been made, or obtained one where the dispensary failed to fill

in the blank and return it. The data from the individual reports was compiled, a summary of which appeared in the *Bulletin of the Chicago Medical Society*, and a copy was sent to each of the dispensaries.

As the report is very brief, I will read it to refresh our memories and refer to it if the occasion requires.

Your committee appointed to investigate the abuse of medical charity respectfully submit the following report:

We find on investigation that there are in the City of Chicago at present 55 dispensaries, 16 of which are connected with hospitals, 9 with medical colleges, while 30 have no connection with any such institutions. Of these 55 dispensaries, 27 are used for clinical instruction, 7 are privately owned.

In 6 dispensaries medicine and treatment are furnished free; in 18 a charge is made to cover the cost of medicine, and in 23 as much money is collected from the applicant as can be obtained, the smallest fee recorded being five cents and the largest ten dollars, which latter amount is charged by a maternity dispensary.

Only 5 dispensaries exhibit signs announcing that treatment is limited to the sick poor, and that only those are cared for who are unable to pay outside physicians. Twenty-six dispensaries claim to investigate the ability of the applicant to pay. Investigation by the committee shows that in 51 of the 55 dispensaries the only investigation instituted consists of a few questions put by the physician in charge, the object of which the applicant at once discovers and answers accordingly. One dispensary refers the cases of doubtful applicants to the Chicago Bureau of Charities for investigation; three employ a nurse or a clerk to look up suspicious cases.

Fifty-five of the dispensaries report that their staff is faithful in attendance; seven engage an outdoor staff.

None of the dispensaries have separate waiting rooms for men and women. One treats only men; one only women, and two treat children alone.

Twenty-three dispensaries exclude contagious diseases; 28 make no reply on this point; 2 do not exclude contagious diseases and 2 exclude all contagious diseases "except gonorrhea."

Twenty-nine have never been examined by the sanitary inspectors of the Department of Health. Twenty-two have no record of any such investigation having been made, although many of these institutions are in wretched quarters where the sunlight never penetrates.

During the last year, 29 dispensaries treated 223,110 persons. In 26, which were run in a slipshod manner, no records are kept of the number of patients treated. Sixteen dispensaries record the number of times each person returned for treatment. During the last year these 16 dispensaries treated 93,806 persons and treatment was given 246,140 times. The number of applicants refused treatment on account of their ability to pay outside physicians was 1,170. In many cases, on investigation, the applicants for relief were found to be property owners, well-to-do citizens, or persons drawing comfortable salaries.

It will be seen from this report that 29 institutions treated 223,110 persons; that 26 dispensaries kept no record of the number of applicants treated; but the committee, after careful deliberation, taking into consideration the size, object, and location of these institutions, estimated the number of people in the city receiving free treatment at 500,000, or 25 per cent. of the population.

Sixteen institutions kept a record of the number of persons treated and the number of treatments given each patient. These sixteen institutions treated 93,806 persons and gave 246,140 treatments, an average of $2\frac{2}{3}$ treatments for each person.

Under normal conditions the average per cent. of the population dependent on and receiving charities other than medical is $\frac{1}{2}$ to 1 per cent. Let us say 10,000 and add 20,000 more to account for a reduplication, which would make 30,000. Deduct this from 500,000 and we have a remainder of 470,000, which shows the number receiving medical charity who are not compelled to ask for, or who do not receive charity in other forms. This is an approximate estimate of the extent of medical charity abuse in the dispensaries.

Each of these patients received an average of $2\frac{2}{3}$ treatments, or 1,153,332 treatments for 470,000 persons. Most of these treatments consist of something beyond the ordinary consultation, many resulting in expensive operations. We

will estimate the average fee for the same service rendered in private practice at \$2.00 each, or \$2,306,664. Most of this burden is borne by the general practitioner.

This \$2,306,664 represents the financial injury done the medical profession by this abuse in the dispensaries, but the moral injury done the beneficiaries of this misguided benevolence is past comprehension.

The accuracy of the matter contained in this report is vouched for by the Bureau of Charities and the committee. Its deductions are presented without claiming that the figures are absolutely correct.

Mr. Louis R. Curtis called attention to the fact that other cities, and especially New York, had suffered to a great extent from this evil, and it had even been necessary to legislate against the abuse of medical charities, the extent of which had become so pernicious that it affected the entire community. In that city they had a commission appointed by the legislature for its regulation.

Dr. J. M. Dodson stated that this abuse existed not only in this country, but to a great extent in others. In London 75 per cent. of the population receive free treatment, which will probably be explained by the extreme poverty in that city. Germany also had suffered considerably along this line. In New York it was estimated that 50 per cent. received medical charity, while in Chicago the proportion was much lower, being only 25 per cent. It had grown on account of the zeal of the medical profession in desiring larger clinics for teaching purposes, the profession neglecting to consider the sociological aspect. The question in his mind was, Did we need a state law or a city ordinance to regulate dispensaries, or would it be possible to control this condition among ourselves? He suggested that, as statutory regulation is open to objection on account of lack of enforcement of the laws, a uniform plan be adopted in which all the dispensaries in Chicago should participate, and that a commission be appointed consisting of representatives from the Chicago Medical Society and the Chicago Bureau of Charities. In the Central Free Dispensary, where they had attempted to regulate the abuse of medical charity and treat only the deserving poor, there had been an actual increase in the attendance since the more rigid supervision of the cases treated in the dispensary had come into effect.

Dr. George F. Shears stated that the evil existed in the institution which he represented, both in the college and hospital. He thought that there were two ways of accounting for it. First, that physicians would insist on referring to the dispensary some cases which they did not care to handle, even though the patients were able to pay; second, that wealthy patients referred patients to the hospital and they were accepted through a question of policy. He would suggest for the correction of this evil a system of co-operation and education among ourselves which could be placed before the different institutions.

As the question of pauperism had not been clearly outlined and was subject to different interpretations, Dr. Favill called on Mr. Ernest P. Bicknell, superintendent of the Bureau of Charities, to discuss the subject. He stated that there was a distinct difference between dependents and paupers, and that there were two classes of paupers—the pauper from necessity and the moral pauper who willingly accepted charity. In his opinion, the pauperization of a community was especially

harmful, and it was a question if the indiscriminate dispensing of charity which was the policy of some institutions was not encouraging moral degeneration. The cause of this condition was a lack of system and not any intentional offending. He thought that some method should be devised whereby intelligent discrimination against illegitimate charity should be enforced.

Mr. H. S. Burkhardt, representing the Central Free Dispensary, stated that a pauper was taken care of by the city and county, but emergency cases should always receive attention. A supervisor from the medical society was desirable to look over the situation. It was sometimes difficult to decide whether a patient was entitled to charity; therefore a uniform method should be devised under the supervision of preferably the Bureau of Charities and the Medical Society. Another plan might be adopted of having the investigation made by a corps of nurses, like the Visiting Nurses' Association, who could go right into the homes and make a personal investigation.

Mr. S. L. Sulzberger, representing Michael Reese Hospital and the Jewish Aid Society West Side Dispensary, said that some complaint had been made by patients of the Michael Reese Hospital of that institution not doing enough charity, as it seemed to be the opinion of the laity that the hospital was a charitable institution. He thought the distinction between a dependent and a pauper was of considerable importance, as often a man who was temporarily dependent might be protected from becoming a pauper by extending charity to him. The keynote of the entire trouble seemed to him to be a lack of investigation and the need of a clearing-house where records could be kept. He felt that the institutions should co-operate for the correction of this evil.

Dr. Rachelle Yarros was inclined to think that people who accepted medical charity would be indignant if any other form of charity were offered them, as they considered that the medical profession should extend their services to any one who was in need of them. In her opinion, there were very few who were demoralized by the acceptance of medical charity. There were many who could afford to live, but who had not saved any money in case of sickness. This was more especially true in cases of chronic illnesses, where there was a great deal of expense. Another question which she considered quite important, especially in maternity work, was the decrease of mortality and morbidity, due to the improved methods and technique in conducting maternity dispensaries. This increase in saving mothers and children was of more importance than the small amount of money lost by the medical profession. In reference to the irresponsible dispensaries, where the patients are not utilized for teaching purposes, Dr. Yarros thought they deserved the sympathy of the community on account of the improper care that they would receive.

Mr. Alexander M. Wilson, of the Chicago Tuberculosis Institute, stated that this institution was advertising for patients. A nurse was sent to the patient's home, where a careful investigation was made of the environment, and a report sent to the physician, who, if he did his

duty, would be able to correct any evils which might exist. In his work there was another aspect of the situation which had to be considered, and that was the protection of the health of the community, which overcame a slight abuse of the charitable situation.

Dr. D. A. K. Steele, a member of the Committee on Abuse of Medical Charity from the Chicago Medical Society, thought that it would be comparatively easy to control the evil by co-operation of the different institutions. He said that quite frequently physicians were to blame for sending patients to dispensaries for free treatment when they were not entitled to it. He then submitted the following plan which the committee would recommend for protection against any further abuse:

1. That a committee be appointed by the president of the Chicago Medical Society whose duty it shall be to bring into one federation the managers of all reputable dispensaries for the purpose of overcoming the evils that now exist through co-operation of the dispensaries themselves, by the education of the public and of those who apply for treatment, through the public press if need be, and if this is not successful, to inaugurate legislation to correct this abuse.

2. That all dispensaries be required to keep complete records of all cases, which records should be open to the inspection of the officers of the federation and that all dispensaries be required to furnish sanitary and hygienic accommodations for both sexes, which should be inspected by the Department of Health. We also recommend that these facts be brought to the attention of the Commissioner of Health.

3. All dispensaries should have a sign in a conspicuous place stating that the free dispensary is for the deserving poor only and should employ an investigator who should inquire carefully into the ability of the patient to pay, referring all doubtful cases at once to the Chicago Bureau of Charities for investigation.

4. That none but the deserving poor should receive treatment or should be received at any dispensary, and these should be required to sign a statement that they are not able to pay.

5. Wherever possible all patients treated gratuitously at free dispensaries should be used for teaching purposes, as this tends to systematize the record of cases and gives the patient more careful and helpful treatment.

Dr. Dodson then presented the following resolution:

Resolved, That the representatives to this conference agree to enter into a federation which shall co-operate to correct the evil existing in the abuse of medical charities and other questions germane to the subject.

On motion the resolution was adopted.

Dr. Ochsner suggested that if a committee was appointed there be members from the laity and some one representing the Chicago Medical Society and other schools of practice.

Dr. I. A. Abt thought it was desirable to organize a federation. He did not agree in regard to any stringent regulation, and thought that both the patients and physicians should be protected.

Dr. Dodson thought it was highly desirable to have some uniform procedure so that the patients would get more effective and better treatment, and in that way this evil could be controlled.

Dr. A. M. Corwin was in sympathy with the move, but before taking any definite attitude thought it would be necessary to report back to the institutions which they represented.

The chairman stated that the object of this conference was not to commit the institutions, but to get an expression of opinion so that it might crystallize into an organization after the institution had been informed of the attitude of the conference.

Dr. Dodson made a motion that a committee of five be appointed by the chair to form a permanent organization, the object of which was the correction of this evil. The motion was seconded. An amendment was offered that a commission be appointed from all the schools of medicine, the Medical Society and the Bureau of Charities. This amendment was put to vote and lost.

The original motion in regard to appointing a committee to form a permanent organization was then put and on vote was unanimously carried.

Dr. Favill then appointed Drs. J. M. Dodson, George F. Shears, Sidney Kuh, William F. Schaare and E. A. Gray.

On motion, the meeting adjourned.

ROBERT T. GILLMORE, Secretary for the Conference.

NOSTRUM NEWS.

It is of interest to note some of the work which has been done in the past few months to eliminate nostrums, proprietaries and, we may also state, patent medicines from the armamentarium of the physician and the effort that is being made to enlighten the practitioners. For a long period of time physicians have been victims of skilful and unscrupulous advertising by reputable and disreputable pharmaceutical houses alike. Not only have physicians been made the victims, but, we regret to say, willing victims of lazy prescribing. Drug houses have recognized the best means of advertising their specialties is through the detail man to the doctor direct. One prescription from a reputable physician, calling for a proprietary remedy in the original package, will do the manufacturer of that remedy more good than can be estimated. The physicians have many problems to solve, in sanitation, preventive medicine, serum therapy, etc. To promote any one of these requires a long and persistent education of the public, but certain it is that a great duty lies at our own door to cleanse our own lazy brains and promote scientific drug therapy.

The Kentucky State Medical Society is to be congratulated upon the progressive campaign it is carrying out to educate the physician of his own state in the proper method of prescribing drugs and the active steps taken to overcome the nostrum evil. The following letter, signed by the secretary of that organization and sent to the county societies, may be familiar to our readers, but the general favorable reception of its contents constrains us to present it as a demonstration of what is being done in Kentucky to put the medical profession in full possession of the facts pertaining to secret remedies and useless proprietaries. The resolutions referred to in this letter and given below were printed in the November issue of the *Kentucky Medical Journal*:

Dear Doctor:—Acting under the unanimous instructions of the House of Delegates of this association, I have the honor of enclosing resolutions in regard to the

use of nostrums by physicians and their advertisement to the profession through a large portion of the medical press, and of inviting the active co-operation of your society in this work. The united efforts of medical organizations have won a complete victory in the insurance fee matter, except as against the New York Life, and this company is sure to come to time if competent physicians refuse to examine for them. In this nostrum matter we have a harder fight, because we are fighting ignorance in our own ranks, and will have arrayed against us all those elements in our own and the drug trade which are controlled by the patent and proprietary medicine people. Will you kindly inform me what action your society takes in the matter for publication in our journal? Fraternally yours,

A. T. McCORMACK, Secretary.

COMMITTEE ON PHARMACOLOGY.

WHEREAS, The American Medical Association has established a Council on Pharmacy and Chemistry, composed of scientists of world-wide reputation and standing, whose function is to examine pharmaceutical products in order to be able to inform the profession as to the actual composition of said products; and,

WHEREAS, After careful examination of many hundreds of said products, it has officially announced its approval of a large number of them, and, in order to make clear to the profession the methods and purposes of their work, have published exposures of a large number of the fraudulent preparations that have been foisted on the members of the profession, and, through them, on the public by interested owners and manufacturers, frequently laymen, ignorant of the use of drugs, except their meretricious use, as examples of the much larger number which they have found of little or no value, or positively harmful; and,

WHEREAS, We believe that every physician in Kentucky is vitally interested in the work of this council and desires in every possible way to promote its usefulness and interest; and,

WHEREAS, The greatest aid to the nostrum manufacturers in their nefarious and avaricious work has been the medical press, whether controlled by medical organizations, individual members of the profession, or interested lay-firms; and,

WHEREAS, We believe the time has arrived when the great profession of medicine, and all agencies controlled by it, should divorce itself permanently, finally and forever from those interests, which, like ghouls, prey upon the sick and afflicted through the commercial sale of nostrums and dishonest, so-called proprietary medicines; now, therefore, be it

Resolved, By the Kentucky State Medical Society, in annual session assembled, that we heartily endorse the formation of the Council on Pharmacy and Chemistry, that we extend it our confidence and congratulations on the splendid work already accomplished, and that we pledge it our unanimous support in its purpose of freeing our profession and its publications from nostrum control; and, be it further

Resolved, That, in pursuance of this subject, we request each county society in Kentucky to devote a special session to consideration of this important question with a view to securing the active aid of every licensed practitioner in the state, and that the council of this association be requested to omit from the advertising columns of our journal all pharmaceutical preparations which are not manufactured in conformity with the U. S. Pharmacopeia or the National Formulary, until they have been approved by the Council on Pharmacy and Chemistry of the American Medical Association; and, be it further

Resolved, That we request every physician in Kentucky to secure a copy of the abridged U. S. Pharmacopeia and Formulary and be guided by this and the Council of Pharmacy and Chemistry in their use of medicines; and, be it further

Resolved, That our Council be directed to communicate with the editors, owners, collaborators and publishers of the medical journals of this country on this subject, and to announce to the profession of Kentucky, through the columns of our journal such publications as are willing to assist the profession by freeing their columns of nostrum advertising, and we hereby pledge our support to such journals, even if they find it necessary to increase their subscription rate; and, further, be it

Resolved, That we expressly condemn the publication of so-called medical journals by interested manufacturers of nostrums, and request the profession of the state to decline to receive them.

The following resolutions adopted at the December meeting of the Greene County Medical Society are of especial interest and represent a good example for other county societies in the state to follow. There is no question before the medical profession of this country which is of greater importance than intelligent and honest use of drugs in the treatment of disease:

WHEREAS, It is detrimental to the best interest of the sick and suffering for physicians to prescribe proprietary remedies and nostrums of which they can not be assured of the composition and which are sold by druggists indiscriminately to the public; therefore, be it

Resolved, That it is the sense of the Greene County Medical Society that none of its members should prescribe remedies which are not manufactured in conformity with the U. S. Pharmacopeia or the National Formulary, or have not been approved of by the Council on Pharmacy and Chemistry of the American Medical Association; and, be it further

Resolved, That the secretary be instructed to send a copy of this resolution to each member of the Greene County Medical Society, the editor of THE ILLINOIS MEDICAL JOURNAL and the editor of *The Journal* of the American Medical Association.

In the December 21 issue of *The Journal* of the American Medical Association is published an exposé of the "Hyoscin-Morphin-Cactin" Anesthesia, and after a very exhaustive and careful analysis of the whole subject the following conclusions are given:

"Conclusions as to Hyoscin and Scopolamin.

1. Hyoscin and scopolamin are synonymous terms for the same alkaloid.

2. The claim of the Abbott Alkaloidal Company to the effect that the alkaloid it used, and which it calls "hyoscin," is purer and safer than scopolamin has no basis in fact, for that alkaloid is scopolamin.

3. No one connected with the Abbott Alkaloidal Company, or, for that matter, any one else, is able to detect whether the alkaloid it buys is made from *hyoscyamus* or from some other plant of the same family. It may be chemically pure, or impure, whether marked under the name hyoscin hydrobromid or scopolamin hydrobromid.

4. The Abbott Alkaloidal Company, therefore, has been misleading the medical profession of the United States regarding hyoscin in its "H. M. C." tablets, and has been doing this either deliberately, with the intention of deceiving for commercial gain, or from ignorance of well-known facts.

Conclusions as to Cactin.

Comparing the results of physiologic experiments with the claims made by the Abbott Alkaloidal Company concerning "cactin," we leave it to our readers to decide for themselves whether or not "cactin" is a fraud.

Conclusions as to "H. M. C., Abbott."

To sum up the facts concerning the "H. M. C." tablets, it may be said that this mixture is nothing but scopolamin-morphin to which has

been added an inert secret article called "cactin," thus adding mystery to it all and making out of this well-known and important combination of scopolamin-morphin a proprietary nostrum."

At an informal conference, called by Prof. Joseph P. Remington, of the teachers named below in the medical schools of Philadelphia, the following resolution was passed:

Resolved, That it is of the utmost importance for accuracy in prescribing, and in the treatment of disease, that students of medicine be instructed fully as to those portions of the United States Pharmacopeia which are of value to the practitioner, and that members of the medical profession be urged to prescribe the preparations of that publication, and further, that this resolution be forwarded to the medical and pharmaceutical journals, and to the teachers of medicine and therapeutics in the United States.

James Tyson, M.D.,
John H. Musser, M.D.,
John Marshall, M.D.,
Horatio C. Wood, Jr., M.D.,
H. A. Hare, M.D.,
J. W. Holland, M.D.,
Alfred Stengel, M.D.,
David L. Edsall, M.D.,

Seneca Egbert, M.D.,
M. C. Thrush, M.D.,
James Wilson, M.D.,
E. Q. Thornton, M.D.,
John V. Shoemaker, M.D.,
I. Newton Snively, M.D.,
J. M. Anders, M.D.,
J. Solis-Cohen, M.D.

February 3, 1908.

A joint banquet of the druggists and doctors was held at the Auditorium on Monday evening, January 27. There were about 255 members of the allied professions present, and the subject under discussion was the more general use of the U. S. Pharmacopeia and National Formulary. Mr. Yeomans, president of the Chicago Retail Druggists' Association, introduced Dr. Henry B. Favill, president of the Chicago Medical Society, who acted as toastmaster. Members from both societies spoke encouragingly of the use of the National Formulary in writing prescriptions instead of writing for nostrums and proprietary preparations, the contents of which one is not acquainted with. As a means of correcting this widespread evil it was suggested that there be a more thorough training of the medical student in the art of prescription writing and pharmacology, and the establishment of a course of lectures in the medical schools by competent teachers in pharmacy to instruct undergraduates of the dangers of falling into the pernicious practice of prescribing pharmaceutical preparations, the contents of which they are not familiar with.

Dr. George H. Simmons, Secretary of the American Medical Association, in speaking of the methods of handling the patent-medicine traffic, suggested to the druggists that they keep patent medicines out of sight and not advertise them by putting them in the show windows.

Aside from Dr. Simmons, the following physicians spoke from the medical standpoint: Frank S. Johnson, Charles M. Oughton, J. V. Fowler and J. M. Dodson, and the following druggists from the pharmaceutical standpoint: Sidney C. Yeomans, President of the Chicago Retail Druggists' Association; Henry Sandkoetter, chairman of the U. S. Pharmacopeia and National Formulary Committee; Prof. C. S. N. Hallberg, Frank Mares, and Henry Holthoefcr.

The report of the Committee on Patent Nostrums of the Chicago Medical Society, published in the *Bulletin*, is of interest to all members of the profession. It carries with it recommendations which should be in the minds of all of our readers, for the time has come when the rank and file of the medical profession must work together, individually and collectively, if the nostrum evil is to be wiped out. Much time and money are being expended to rid the public of preventable disease, and it is of equally great, if not greater, importance that we should have a thorough house cleaning in our own ranks and put a stop to unintelligent prescribing. The committee reported to the council of the Chicago Medical Society, Jan. 14, 1908, as follows:

"Your committee, to whom was referred the communication from the Kentucky State Medical Society regarding the proprietary medicine evil, begs leave to report that it heartily endorses the general spirit of the circular issued by the above association, entitled 'The Doctor vs. the Nostrum,' and believes that the importance of the subject is as great as indicated in the circular. The evils connected with the proprietary medicine business have been too long ignored by physicians, and we believe the time has arrived for making more individual and collective efforts to overcome them. It is not necessary to enlarge on what these evils are, since they are evident to all observing and thinking physicians.

"By misleading information regarding composition, by extravagant therapeutic claims, by unreliable testimonials and by other methods that do not accord with business—much less with medical—ethics, our profession has been misled into using ordinary mixtures of unknown composition and actually fraudulent nostrums, and by doing so has aided in extending the use of patent medicines among the laity.

"The American Medical Association, in creating the Council on Pharmacy and Chemistry, has attacked the evil in a most sensible manner, but it must be recognized that the success of this movement will depend on whether or not the council has the confidence and cooperation of our profession. This fact should be thoroughly appreciated by those who want to see the evils connected with proprietary medicines eliminated. Without this cooperation, the efforts of the Council on Pharmacy and Chemistry will be of little avail. It is not to the interest of the manufacturers of proprietary medicines to see this work a success; consequently, on their own volition, they will not lend their cooperation by submitting their products for investigation. However, if physicians refuse to prescribe proprietary medicines that have not been examined and approved by the Council on Pharmacy and Chemistry the manufacturer who has honest preparations and who is willing to advertise them in an ethical manner will immediately submit such preparations. Preparations that will not stand this investigation will soon be eliminated.

"To aid physicians who are willing to cooperate by refusing to prescribe proprietaries that have not been passed on, the American Medical Association has issued a pamphlet, 'New and Non-Official Remedies,'

containing a list and a description of the approved proprietary medicines, supplements or new editions being issued as needed. The price of this book is nominal, 6 cents.

"The association has also issued a book in compact form, known as the 'Physician's Manual of the Pharmacopeia and National Formulary,' which contains the formulas of and other information concerning all the preparations in these books. With this book and the pamphlet, 'New and Non-Official Remedies,' we have a means of ready reference to all the drugs and combinations, official and proprietary, that we need. Arrangements have been made by which we can obtain this manual at a very moderate rate.

"For the reason that we believe that the time has come for a more active cooperation on the part of all of us in this work, we recommend that the Chicago Medical Society, and each of the branches, be asked to devote one meeting to a discussion of the question. We feel that the great trouble to-day is that too few of us have given the subject-matter sufficient thought, and such meetings are, therefore, necessary.

"It is well known that 'patent-medicine' advertising in newspapers and lay periodicals not only influences the public to use 'patent medicines,' but places such publications under more or less control of the promoters of these nostrums. Likewise many medical journals are not only aiding and encouraging the use of unethical proprietaries, but are also more or less controlled by those who are promoting such medicines. We would, therefore, recommend that the members of the Chicago Medical Society be asked to refuse to subscribe for or accept those medical journals that carry advertisements of proprietary articles that have not been investigated or that have been condemned by the Council on Pharmacy and Chemistry.

"In conclusion, we recommend the adoption of the following resolutions:

Resolved, That we heartily endorse the formation of the Council on Pharmacy and Chemistry; that we extend it our confidence and congratulations on the splendid work already accomplished, and that we pledge it our support in its purpose of freeing our profession from fraudulent proprietary medicines.

In this same connection the following resolutions adopted by the joint committee from the Chicago Medical Society and the Chicago Branch of the American Pharmaceutical Association is likewise of great interest:

"First.—The prescription is an utterance of the prescriber, who alone should direct and control its employment. It should, whenever practicable, carry the name of the patient, the age in years, if a minor, and the date when written.

Second.—The pharmacist who prepares the medicines should retain the prescription for his reference and as a record for a certain limited period, not less than five years, for the protection of the prescriber, himself and the patient.

Third.—The medicine prescribed should be supplied not more than once on the same prescription: (1) If ordered by the prescriber not to be repeated (N. rep.); (2) if containing medicinal substances commonly called narcotic or habit-forming drugs; (3) if called for by some person known not to be the original holder.

Fourth.—Copy of the prescription may be furnished and should be written on an especial blank, containing a declaration that it is a copy of the prescription which has been delivered to the original holder and is not to be refilled, except on order of the prescriber. The copy is made without recourse to possible error."

The following communication published in *The Journal* of the American Medical Association, Dec. 7, 1907, is of interest because it illustrates an evil which is rather prevalent and may aid in more careful prescription writing:

"I spent last month in New York City with some old-time friends, in whose home is a small boy. A few days before my arrival this boy was out of sorts, and the father went to their physician for a prescription. Imagine my surprise to discover that the prescription that father received was for a bottle of Castoria, and there it was, literature, wrap-pers and all.

"I looked up the Directory of the American Medical Association, only to find that this physician is not only a member of the State Society, but also of the American Medical Association. And he orders Castoria! Is it because the children cry for it? Riding up Fifth avenue the other day, the elegant home of Castoria's promoter was pointed out, and not far from that the home of Medical Brief Lawrence, of 'ethical proprietary' medicine fame.

"When I stopped in Chicago on my way through, a druggist, an old friend of mine, smilingly handed me a prescription, just in to be refilled. It was for Radam's Microbe Killer. The doctor who wrote it is a member of the Chicago Medical Society. I saw that prescription and read it.

"While we are discussing the religious press and nostrums, these things throw some side lights distressing to contemplate. Both of these physicians are graduates of good metropolitan schools. Why are they not taught therapeutics? One needs to begin close at home when it comes to the fight against nostrums."

The Medical Society of South Carolina has taken definite action, as outlined in the following resolutions, against the nostrum evil:

Resolved, That we heartily endorse the Kentucky resolutions concerning the fight for pure drugs, which the American Medical Association has been carrying on so ably, and we recommend that the following or similar resolutions be submitted by this society to the House of Delegates of the South Carolina Medical Association.

Resolved, That the South Carolina Medical Association heartily endorses the formation of the Council on Pharmacy and Chemistry and pledges its zealous support in the earnest and able effort it is making to free the profession and the public from the evils of the nostrum habit.

Resolved, That in furtherance of this subject every county society in the state be requested to devote one meeting to this important subject in order to increase the interests and secure the aid of every loyal practitioner in the state, and that the editors of *The Journal of the South Carolina Medical Association* be requested to omit from the advertising pages all pharmaceutical preparations which are not manufactured in conformity with the United States Pharmacopeia or the National Formulary until they have been approved by the Council on Pharmacy and Chemistry of the American Medical Association;

Resolved, That every physician in the state be urged to obtain a copy of the abridged United States Pharmacopeia and to be guided by it and by the approval of the Council on Pharmacy and Chemistry in his use of medicines;

Resolved, That the publication of medical journals by those interested in the manufacture of nostrums be condemned and that the physicians of the state be requested not to receive them.

The Peoria City Medical Society, at a recent meeting, discussed the subject of the relation of doctors and druggists.

PUBLIC HEALTH.

Mansfield reports five cases of smallpox.

Smallpox is reported as abating at Gibson City.

South Bartonville reports two cases of smallpox.

Four cases of smallpox are still reported at Melvin.

An epidemic of diphtheria is reported at Whitehall.

Two cases of smallpox have been reported from Loami.

A case of smallpox was discovered February 2 in Lincoln.

The smallpox situation at Peoria is reported to be improving.

An epidemic of scarlet fever has been reported at LaHarpe, Ill.

At Gibson ten cases of smallpox of mild type have been reported.

The smallpox at Pleasant Plains has abated in the last few days.

Three new cases of smallpox were reported in Rockford, February 6.

On February 16 smallpox was reported at the University of Illinois.

The public school at Roseville has been closed on account of measles.

Waukegan reports thirteen cases of typhoid fever in McAllister Hospital.

A disease believed to be scarlet fever is causing much concern in Lacon.

The schools of Lewistown have been closed on account of the presence of smallpox.

The public school at Lewistown has been ordered closed on account of the prevalence of smallpox.

Scarlet fever and smallpox are reported to be prevalent at Albany, where the schools and churches have been closed.

Two more cases of smallpox have been reported in Peoria, making five patients in all in the isolation hospital at present.

On account of the prevalence of smallpox in the neighborhood of Mount Pleasant, the public school has been ordered closed.

Smallpox cases have been reported at Rockford, Verdon, Champaign, Petersburg, Springfield, Dellville, Curran, Franklin, and Chatham.

Manchester is said to have a number of well-developed cases of smallpox; the public school has been closed and public gatherings interdicted.

Greer College and the High School at Hoopston, which have been closed on account of the prevalence of diphtheria, will soon be reopened.

Several cases of smallpox diagnosed as chicken pox have been discovered in Lacon. Schools, churches and places of public gatherings have been closed.

Measles is so prevalent at Zion City that the schools have been ordered closed. On January 22 sixty cases were reported and the city is under quarantine.

The governor has signed the cocain bill passed by the legislature. The measure is intended to regulate the sale of cocain and eucaïn, and heavy penalties are provided for violation.

The smallpox epidemic in Kilbourne has largely abated. The quarantine has been lifted from many homes. At one time there was reported a total of eighty-three cases.

Fire, on January 30, destroyed the Peoria Isolation Hospital. The six smallpox patients were rescued with difficulty and later were placed in temporary quarters in a houseboat.

The Open Air Sanatorium for Jewish Consumptives has been incorporated, to establish a sanatorium near Chicago, to consist of an administration building and smaller buildings or tents for patients.

There were sixty cases of smallpox reported to the City Board of Health of Springfield during January 19. Houses are under quarantine and five patients are being cared for at the Isolation Hospital.

The Illinois Steel Company, South Chicago, through Dr. James Burry, surgeon-in-chief, has offered to give to the Chicago Tuberculosis Institute one of its buildings, rent free, for the use of its dispensary and local headquarters.

A bill has been proposed appropriating \$3,000 for use by the State Board of Health to maintain a laboratory and for special research into the cause and prevention of tuberculosis and \$1,000 to furnish free treatment to indigent persons afflicted with rabies.

At the annual meeting of the Chicago Tuberculosis Society, held January 28, the following physicians were elected directors: Drs. George W. Webster, George F. Shears, William A. Evans, Charles L. Mix, Henry B. Favill, Frank Billings, Ethan A. Gray, Nathan S. Davis, Theodore B. Sachs, John A. Robinson, Edwin W. Ryerson, Arnold C. Klebs, Ludvig Hektoen, and Robert H. Babcock.

During January there were 3,096 deaths reported in Chicago, 392 more than for the preceding month and 30 more than for the corresponding month of 1907, the respective annual death rates per 1,000, being 16.83, 15.10 and 17.13. Of the deaths, 570 were due to pneumonia, 314 to consumption, 232 to heart disease, 215 to violence, including suicide; 192 to influenza, 188 to nephritis, 169 to acute intestinal diseases, 129 to cancer, 121 to bronchitis, and 111 to nervous diseases. Diphtheria caused 61 deaths; scarlet fever, 60; typhoid fever, 39; measles, 13, and whooping cough, 8.

NEW INCORPORATIONS.

Open Air Sanitarium for Jewish Consumptives, Chicago; care for consumptives; incorporators, Pauline Aren, Mrs. M. Tower and Mrs. J. B. Melkes.

Medical Aid and Burial Association, Chicago; capital increased from \$35,000 to \$100,000.

CHANGE OF LOCATION.

Dr. F. H. Yates has located in St. Elmo.

Dr. W. S. Taylor, of Tallula, has removed to Atterberry.

Dr. E. W. Brooks, of St. Elmo, Fayette county, has removed to Charleston, Coles County, Ill.

Dr. J. A. McCaw has removed from Herschell, Kankakee County, to 874 East Clarkson Street, Denver, Colo.

Dr. O. H. Deielman, of Springfield, has moved to the Isthmus of Panama, where he has taken a civil service commission as a medical physician of the canal zone.

MARRIAGES.

CHARLES W. JOHNSON, M.D., to Elizabeth B. Hayes, both of Litchfield, Ill., February 8.

ARTHUR ROWLEY REYNOLDS, M.D., to Mrs. Mary Bond Cone, both of Chicago, January 21.

LAY GORDON BURROUGHS, M.D., to Miss Essie Raymond, both of Collinsville, Ill., January 15.

JOSEPH E. ETZBACH, M.D., to Miss Josephine Davidson, both of Utica, Ill., in Chicago, January 18.

CHARLES B. BATEMAN, M.D., to Miss Lena Eakin, both of Vandalia, Ill., at St. Charles, Mo., January 19.

ERNEST LINWOOD CHENEY, M.D., Duluth, Minn., to Miss Grace Lillian Hinckley, of Chicago, February 5.

BERNARD MONTROSE CONLEY, M.D., Wilmette, Ill., to Minnie Agnes Hineh, M.D., of Dunning, Ill., in Chicago, January 15.

FRANK PARKINSON AULD, M.D., Shelbyville, Ill., to Miss Cathrine Agness Price, of Maplehurst, near Shelbyville, Ill., January 1.

DEATHS.

JOHN H. YANAWAY (years of practice, Ill.), 1877; died at his home in Toledo, Ill., January 24, aged about 80.

WILLIAM MISLAP, M.D., University of Vienna, Austria, 1876; died at his home in Chicago, February 6, aged 80.

CLAUS S. SZOWALL, M.D., University of Stockholm, Sweden, 1879; died at his home in Chicago, January 7, aged 55.

ROBERT D'UNGER, M.D., Eclectic Medical College of Philadelphia, 1859; died at his home in Chicago, January 30, aged 83.

SAMUEL J. AVERY, M.D., Rush Medical College, 1864; on February 17, at his home, 780 Walnut street, Chicago, aged 80 years.

SAMUEL R. MILLARD, M.D., Cincinnati College of Medicine and Surgery, 1862; died at his home in Chicago, February 1, after an illness of one day, aged 92.

DAVID BERKHOFF, M.D., Rush Medical College, Chicago, 1891; a member of the Illinois State and Cook County medical societies and a prominent member of the Holland Society; died at his home in Chicago, February 9, aged 51.

FREDERICK H. FOSTER, M.D., Hahnemann Medical College and Hospital of Chicago, 1872; a specialist on diseases of the eye and ear; died at his home in Chicago, January 18, from nephritis, after an illness of a year and a half, aged 56.

FREDERICK C. SEMOLROTH, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1873; formerly postmaster of Walnut Grove.

Ill., but later of Peoria; died in St. Francis Hospital, in that city, January 8, from cerebral hemorrhage, after a short illness, aged 70.

PAUL OSCAR ESBJORN, M.D., University of Iowa, College of Medicine, Iowa City, 1897; of Stanton, Iowa; a member of the Iowa State and Montgomery County medical societies; died at the Augustana Hospital, Chicago, January 18, a week after an operation on the stomach, aged 37.

JAMES B. HAYES, M.D., American Medical College (Eclectic), St. Louis, 1878; a veteran of the Civil War; was stricken with heart disease January 15, while delivering his address as commander and toastmaster at a banquet of his G. A. R. post at Carrollton, Ill., and died at his home a day later, aged 63.

STEPHEN FRANKLIN POMEROY, M.D., Yale Medical School, New Haven, 1855; a member of the Massachusetts and Hampden District societies; for 25 years a member of the staff of the Springfield Hospital, and one of the oldest practitioners of Springfield; died at his home in that city, January 11, from nephritis, after an illness of three weeks, aged 80.

JOSEPH H. UTLEY, M.D., of Thayer, Sangamon County, aged 58, a graduate of Bellevue Hospital Medical College, 1878, and for a number of years a practitioner in Springfield, died at his residence, Feb. 16, 1908. His remains were moved to Dixon, Ill., the place of his birth, for burial. Dr. Utley was the son of a pioneer resident of Dixon and was a graduate of the naval academy at Annapolis before he engaged in the study of medicine.

HENRY D. ROEHLER, M.D., Rush Medical College, Chicago, 1900, of Chicago; a member of the Illinois State and Cook County medical societies; assistant obstetrician in the Chicago Lying-in Hospital; attending obstetrician at the Englewood Hospital, and demonstrator of operative obstetrics in the Northwestern University Medical School; died January 30 at the Englewood Hospital from septicemia contracted in the course of his professional work, aged 32.

WHEREAS, Dr. Henry D. Roehler, a member of the Illinois State and Chicago Medical Societies, member of the staff of the Cook County, Englewood and Wesley Hospitals, assistant obstetrician to the Chicago Lying-in Hospital, and demonstrator of operative obstetrics in the Northwestern University Medical School, bravely and tranquilly met an untimely death on Jan. 30, 1908; therefore, be it

Resolved, That in his death the Chicago Medical Society has lost a valued and enthusiastic member, and the medical profession of Chicago has been deprived of one who had already given assurance of great achievement. He was a true and loyal friend, a conscientious and able physician, and an earnest and upright citizen. We mourn his death and extend to his family and friends our heartfelt sympathy.

JULIUS H. HESS,
CARL LANGER,
FREDERICK R. GREEN.

JOHN H. TYLER, M.D., Rush Medical College, Chicago, 1857; a member of the Illinois State and DeWitt County medical societies; a member of the legislature and twice state senator; died at his home in Clinton, January 25, from heart disease, after an illness of eleven weeks, aged 80.

JOHN W. HUMPHREY, M.D., Hygieo-Therapeutic College of New York, New York City, 1864; formerly of Shenandoah, Iowa; died from disease of the brain in Galesburg, Ill., after an illness of about six years, aged 71.

HORATIO B. BUCK, M.D., Jefferson Medical College, Philadelphia, 1856; a member of the American Medical Association; once president of the Tri-State Medical Society, and vice-president of the Illinois State Medical Society; surgeon of volunteers, afterward brigade surgeon and later surgeon-in-chief at the central rendezvous of Illinois troops in Springfield during the Civil War; a member of the local pension board since 1877, and for several years its executive officer; died at his home in Springfield, January 23, after an illness of a few days, aged 75.

WASHINGTON WEST, M.D., Washington University, Medical Department, St. Louis, 1868; acting assistant surgeon, U. S. Army, from 1868 to 1870; was found dead in his buggy, in front of his home in Belleville, Ill., from heart disease, January 29, aged 59.

CHARLES ROSS BURNER, M.D., Medical College of Indiana, Indianapolis, 1904; of South Bend, Ind.; died at the home of his father, near Rollison, Ill., January 25, after an illness of nearly three years, aged 30.

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ORIGINAL ARTICLES

THE MODERN TREATMENT OF PULMONARY TUBERCULOSIS; THE SANATORIUM; ITS FUNCTION AND VALUE.

J. W. PETTIT, M.D.

Medical Director Ottawa Tent Colony.

OTTAWA, ILL.

In the evolution of the modern treatment of tuberculosis the sanatorium plays a most important part. Indeed, it may be said that the modern treatment of tuberculosis is an evolution of the sanatorium rather than the sanatorium of the treatment. It is the only means whereby it can be applied systematically and with any degree of certainty as to results. Its object is to systematize and perfect the treatment in such a way as to give the patient the advantage of every detail, however small, which will tend to keep the balance in his favor instead of its administration in a hit-or-miss haphazard sort of way, as is too frequently done, thus adding immeasurably to the chances of recovery of many patients whose lives are otherwise needlessly sacrificed.

The advantages which sanatorium treatment present are many. The patient is under constant medical supervision. He is removed from all disturbing influences; he is encouraged to take adequate amounts of food; he is made to take sufficient rest; he is prevented from over-exercise, and taught how to take the proper amount of exercise; he is taught how to live; he breathes pure air continuously throughout the day and night; he lives with one object, that of getting well, and he has a constant object lesson in watching the good effects of the treatment on others. He is taken away from business cares and home surroundings, which are apt to make demands upon his strength, and placed in a position where his sole business is that of getting well. He receives better care, because everything is arranged to meet his needs. The sanatorium is constructed with special reference to the disease to be treated.

Since the sanatorium treatment is accepted by the medical profession as the best available at present (and the unanimity of the profession on this point is remarkable), and since it saves many lives, prolongs the lives and alleviates the sufferings of those whom it can not altogether rescue, and inasmuch as it has the collateral advantage of aiding in the work of prevention by isolating a number of active centers of infection that but for it would be scattering the seeds of the disease throughout the community, it behooves us to bring the treatment within the reach of as many as possible and thus enhance the chances of recovery from a disease in which under the most favorable conditions the result in any given case is doubtful.

The application of the laws of health to the treatment of disease, although long advocated by far-seeing pioneers, has only recently received that recognition necessary to elevate it to the dignity of an adopted principle of medical practice, and we have been so slow to recognize this principle that we have not done so until forced by our failure to attain satisfactory results by every conceivable method. Experience has abundantly demonstrated the importance of the sanatorium as a desirable and even essential agency in the treatment and as an educational school for rational living. Fads and fancies have gathered about the so-called "open-air" treatment, and impossible things have been attempted and impossible claims made by inexperienced enthusiasts as to the almost miraculous efficacy accruing from sanatorium residence. Notwithstanding all the exaggerations and failures which are chargeable to over-enthusiasm and ignorance, the latter day treatment offers the best means known to medical science for dealing effectually with tuberculous patients. The difficulty in securing early cases, the financial and other obstacles to continuing treatment for a sufficient period, the frequent impossibility of reforming the habits of patients, for securing suitable work after discharge, failure to maintain medical after-care—these and many other obstacles make it surprising that even as good results have been secured. Time and effort will remedy these defects and thus remove the skepticism which is the inevitable result of the many failures which must now be recorded. The sanatorium offers the tuberculous invalid the most practical, indeed, the only systematic and reasonably certain method of fighting the disease and acquiring hygienic education in its prevention.

The hygienic-dietetic treatment of tuberculosis is an established fact. It is not an experiment. The pioneer efforts of Brehmer in Europe, Trudeau in this country, and scores of others have demonstrated beyond cavil the immensely practical value of the sanatorium idea. This does not mean, however, that the patient is to be restored to health simply by a few weeks' stay in a sanatorium, a brief sojourn at some health resort, or tent life in his own back yard under the guidance of his own sweet will or general directions from a physician whose knowledge is purely theoretical. It means rather a systematic, regulated life under rigid discipline and routine, the constant watchfulness of every symptom, not by the patient himself, but by experienced nurses and physicians.

RESULTS.

The results of sanatorium treatment are highly encouraging, notwithstanding statements made from time to time to the contrary. Under sound sanatorium treatment the lives of thousands have already been saved. Hundreds have been rendered fit to return to ordinary work, or without complete recovery have been able to resume work of a less exacting nature. If treatment be undertaken reasonably early it is the exception to find a patient who does not make favorable progress. In many instances results are obtained which can only be described as marvelous. If the results are not so uniformly good as might be desired, the sum total of complete or economic cures is still very great. These would be much better if there was a more complete understanding as to what constitutes an early and suitable case.

Statistics at hand from various sources, including those of our American sanatoria, show that in one-third of all cases treated apparent cures are effected which does not include arrested and improved cases which subsequently resulted in cures. This means that proper treatment has cured 35 to 40 per cent. of what was considered only a short time ago an incurable disease. If one-third can be cured when the statistics include those in the advanced and far-advanced stages of the disease, this percentage could certainly be more than doubled if these patients were treated in the incipient stage. So, in the light of what has been done by those who are endeavoring to cure tuberculosis, the outlook is most promising. With early diagnosis and immediate treatment results can be attained as good as those in typhoid fever and pneumonia; therefore, this disease is no longer to be looked upon as hopeless, but as one that will yield readily to proper treatment.

Too much of the work of the sanatoria is devoted to the care of incurable or, at best, unpromising cases rather than to the curable. These must be cared for, but it ought to be understood that as a rule all that should be expected in this class of cases is that life may be prolonged and the sufferers made more comfortable while they live. The possibilities of treatment should not be judged by what is being accomplished under present extreme conditions. It is the far-advanced cases which cause the apparently poor statistical showing. While the results are in some respects disappointing, they are due for the most part to defective methods which will be remedied. Those who are in the thick of the fight see so many causes operating to defeat their efforts that it is not surprising if here and there one becomes discouraged and utters a despairing note which has a tendency to retard our progress. We see so much of our energy wasted because of the failure to appreciate what can and what can not be done, what ought and what ought not be done—in short, the failure to recognize the condition of success, and that the treatment has its limitations. These failures will be repeated over and over again and many lives must be sacrificed to error before the truth shall be established. This seems to be in accordance with the law of progress in all departments of life. It has always been so in medicine, and there is no reason to expect that our efforts to establish the truth

in our fight against this most destructive of all diseases will be an exception. Here again we may use appendicitis as an illustration. In the early history of the treatment when an operation was delayed until the patient was almost moribund the mortality was so great that operative procedures were seriously handicapped and discredited. Now that an operation is the first instead of the last resort the mortality is almost nothing. Thus it will be with a better understanding of when and how to apply the modern treatment of tuberculosis.

TIME.

"A chain is no stronger than its weakest link." Aside from securing patients in the early stage of the disease, the weakest link in the chain of treatment at present is failure to recognize the time element. Control of the patient is the secret of success, and in no particular is this more essential than in allowing the physician to determine how long patients shall remain under treatment. As a rule, patients are amenable to control in every important particular save one, and that is the length of time treatment shall be continued. This grows out of the prevailing opinion which results from the teaching that tuberculosis is easily cured and a failure to recognize what constitutes a cure. I do not include in this statement those who must abandon treatment for financial reasons. The prevailing idea is that a person suffering from consumption has only to go to a sanatorium for a few weeks—three months is the time usually designated—in order to be cured. This or even a less time usually suffices to get rid of the mixed infection and allay active symptoms. This quiescence is mistaken for cure even by intelligent patients and physicians. Notwithstanding the strenuous efforts of sanatorium officials to prevent, these patients return to their homes, where they are hailed with delight and heralded as cured. With their own unwonted feeling of health, the constant reiteration of friends that they are cured, they soon grow careless in carrying out the essentials of treatment and relapse into a condition perhaps worse than when admitted to the sanatorium. Such patients realize their folly too late, are filled with regret, and the friends who are most largely responsible by their bad advice for the disastrous consequences, in their ignorance decry the treatment as a failure.

Although the disease may in many cases be arrested by a comparatively short stay, a complete cure requires a long time. If the patient returns to his former surroundings and resumes his occupation, the old influences are likely to cause a recurrence of the trouble. How to prevent this is the most perplexing question in the treatment of tuberculosis. The object of treatment is not merely to secure the arrest of the disease but those changes in the affected areas which characterize obsolete lesions. It is important to remember that for such changes to take place a long period of time is required, to be measured always by months, and in some cases by years, and that failing in this, it is very likely that the patient will suffer a relapse as soon as he submits to the strain which a busy life entails. It is difficult, in fact impossible, to say in advance just how long patients should remain in a sanatorium before

being left to their own resources, which is what returning to their homes means. In a general way we may fix the time at about six months, but in many cases it should be much longer.

The incipient case in a stay of six months, in a large proportion of cases, should be discharged apparently recovered, and if the patient follows a suitable routine under favorable surroundings for one to two years following his discharge he should have arrived at a state of health in which the term cure is justifiable. This does not necessarily mean that he must remain idle all this time or follow a life of invalidism. Under proper conditions and directions he may follow some employment and even be benefited thereby. Time is an essential element in the treatment and varies in different individuals and according to the stage of the disease. More failures are due to the fact that patients do not continue the treatment long enough than because they are incurable. When this fact is understood one of the most serious obstacles to success will be largely overcome. I do not wish to convey the impression that it is the perversity of the patient which leads him to disregard the time element. This mistake is due to the very natural, and by comparison with convalescence from other diseases, reasonable assumption that he is almost well because he is restored to his normal weight and feels perhaps better than he ever did in his life. He can not distinguish between his feelings and his actual danger, can see no reason for remaining under treatment where, so far as he can determine, all there is to the treatment is to eat, sleep and live in the open air—a treatment so simple and easy that he needs no guidance or even advice. These are the principal reasons why patients abandon treatment just at a time when recovery is assured but not yet complete. Some go home, carrying out the treatment fairly well and make a good recovery. Others are soon as bad or worse than when treatment was begun. It is safe to say that fully 50 per cent. of relapses of apparent cures are due to failure to remain in the sanatorium long enough. This difficulty is largely due to the bad advice which is frequently given to go to a sanatorium "for a few weeks to learn the treatment." Unfortunately it is not so easy or simple that this can be done. Such advice is pernicious, for the reason that it misleads patients and demoralizes them when they find they have been ill-advised.

No patient should be encouraged to enter upon the treatment without an understanding of all its conditions and a full determination to carry them out. There is no short cut or royal road to a cure in tuberculosis. Physicians will render their patients and the cause valuable service by impressing the very important fact upon those whom they advise to take the treatment that those who are not willing or can not meet its requirements need not expect a favorable result. The conditions are exacting, and in nothing more so than in the time element, and attempts to compromise or depart from well established methods usually result disastrously.

If the patient and his friends assume the responsibility of deciding how long he shall remain under treatment, why not go a step further

and decide every other item of treatment. By so doing the very important factor of control is eliminated, which is the principal reason why sanatoria exist. All the treatment amounts to in many cases is simply to carry patients to an arrest of the disease which they call a cure, deludes them into a false security for a time, and deceives their friends and the public. These are the so-called "cures" from which some statistician of the future will collect his data to prove the instability of the treatment and the failure of sanatoria to produce permanent results.

The patient who can not or will not give up all his active duties and all pleasures of his own choosing for at least a six months residence in a sanatorium and lead a very regular and severely correct life for a year or two longer has no reasonable assurance of making a recovery. These conditions may seem exacting, but they must be met. The time element aside from the expense is really the severest exaction of the treatment. "All that a man hath will he give for his life." In view of the desperate struggle men make to save their lives when confronted with imminent danger under conditions where they must suffer excruciating pain, sacrifice much in time and money, it is passing strange that more patients with tuberculosis will not devote a few months, amid pleasant surroundings, free from hardships and pain, to escape almost inevitable death. Is it the characteristic optimism peculiar to the disease which deludes them? Or is it our failure to present the danger in such a way as to duly impress them? Whatever may be the cause, we will never make substantial progress in our fight against this terrible scourge until patients are more thoroughly impressed with their danger and what must be done to escape it.

HOME TREATMENT.

The question of treatment at home or in sanatoria has been discussed more or less, and on the part of some with considerable heat; therefore, this question demands careful and intelligent consideration. There is no reason why a consumptive in ordinary circumstances can not have as much fresh air and nourishing food at home as in a sanatorium. He may obtain rest and he may follow the directions of his physician, but, generally speaking, the hygienic, dietetic and disciplinary care of a consumptive in any stage can best be enforced in a sanatorium. Experience teaches that patients at home are almost certain to disregard rules that are necessary but irksome, and they usually end by disregarding them altogether. The exceptional patient is amenable to the requirements of a long course of treatment, and it goes without saying that such a one will do as well at home as anywhere. A vast majority of cases, however, require a residence at a sanatorium in order to form the habits of life necessary to their preservation. Even under the environment of a favorably situated and well ordered home treatment is well-nigh impossible. The family or friends of the patient can not give intelligent cooperation, and in laudable attempts to help will hinder by over-indulgence. Well-nourished, incipient cases with fair bodily strength do not impress their friends or themselves as invalids and are easily tempted to

over-exercise, indulge in injurious amusements or other undue expenditure of energy, seriously handicapping the best efforts of even a thoroughly trained medical attendant. The inevitable coddling of mothers, wives and sisters, to say nothing of the difficulty of controlling the patient, even if these do not exist, makes successful home supervision almost if not quite impossible.

It is difficult to secure absolute obedience to directions for home treatment. A patient who would take a drug in the exact manner prescribed will usually lack appreciation of the importance of following to the letter directions for taking air, food and rest or exercise. Patients are exceedingly apt to make variations in directions given them in accordance with their feelings or the advice of friends. No one can study the minute care given to patients in the sanatorium without being impressed with the fact that in the treatment of tuberculosis everything touching the environment of the patient is important and should be considered. If such slight influences as an exciting game of cards, highly emotional music, or an exciting book, may raise the temperature of such patients and do harm, how necessary that he should have constant medical guidance. That many persons recover from tuberculosis without a physician we know. That many even have the disease and recover without even suspecting that they had it, we also know from autopsy records. But it would be just as foolish for a patient with tuberculosis to treat himself with drugs as it would be for him to treat himself by the so-called fresh-air method. *It is constant supervision that is essential.* The occasional or even daily attention of the family physician is not sufficient in most cases. The fight is a long one, in which carelessness of one day may undo all the benefits of faithfulness of the preceding thirty days. Careful directions may be given, but it is asking too much of a person weakened by disease to take that care of himself which the healthy people about him disregard, and by whose standard he is continually tempted to measure himself. It is not enough to tell him what to do; he must be followed up to see that he does it.

Sanatorium treatment gives the best results because the patient is under perfect control and nothing is left to the feelings or whims of the patient or his family. At home, social, domestic and business duties and attractions interfere with the exact carrying out of the doctor's orders by the patient, who rarely ever feels sick enough to realize that his life depends on his living the life of a desperately sick man, and who in an advanced stage either has not the moral courage, or the family support, aid and comfort to carry out the prescribed regimen. Sanatorium treatment is more economic because it takes less time. As much improvement can be obtained in a week in the sanatorium as is usually possible in a month in the home even under favorable circumstances. Then, too, the results are more satisfactory. Statistics show conclusively that the majority of sanatorium arrests or cures are permanent, while those secured in the home are only temporary.

A sanatorium is a place where patients are taught the business of getting well. When this is learned and the patient is properly fortified

to stand the ordinary vicissitudes of life he may be permitted to return to his home. Such a training is a practical necessity, and it is doubtful if the most favorable results will be attained until private and public institutions are so numerous that all consumptives can be accommodated. With a more general dissemination of knowledge of sanatorium methods and an earlier diagnosis it will be less of a necessity, but for the present and the immediate future home treatment will at best prove a very poor substitute. The failure of patients and friends to appreciate the conditions essential to success are serious obstacles in the application of treatment in sanatoria. These are multiplied many times in the attempt to carry out the treatment in the home.

CURABILITY.

The observation of a large group of cases proves that consumption is susceptible of spontaneous cure and shows that in many instances its progress may be stayed and its ravages repaired by some slight reinforcement of the bodily powers in those cases where the forces of nature are not sufficient under ordinary conditions. It is to supply this reinforcement that sanatoria have been established. It is well known that a large majority of postmortem examinations in charity hospital examinations reveal healed tuberculous lesions in those who have died of other diseases. The tendency of the disease is nearly always toward recovery even when unaided. With proper aid at the proper time all cases can be cured except the few in which resistance is so low that there is nothing upon which to build. Tuberculosis is not curable under all conditions and by loose and indifferent methods. It is curable within reasonable limitations and under well-defined methods.

In estimating the cure of tuberculosis medical men are constantly vibrating between unwarranted optimism and extreme pessimism. As is usually the case, too much importance is attached to the results favorable or otherwise in the individual case. The only possible way to arrive at correct conclusions is to critically examine all the evidence pro and con and make deductions from sufficient data and not isolated facts or preconceived opinions. Conclusions arrived at in this manner will give us comparatively accurate knowledge as to what is being done and a better working basis for future investigations. Success or failure in the advanced or far-advanced case is frequently taken as a criterion of the curability of the disease. This is due to the fact that we have not yet gotten away from our conceptions of consumption based upon the classical symptoms as laid down in text-books. This is as irrational as it is unfair. The successful results so frequently obtained under extremely adverse conditions should be accepted as illustrating the curability of the disease and the possibilities of the treatment, but not as an example of what may be expected as a rule. More should not be demanded of the treatment than is claimed for it by those who are in a position to know its merits. It is not that even far-advanced cases can not be cured so much as the fact that it requires so much courage, time and money that there is only an occasional patient who can stand the

test. There should be no criticism of the treatment that it does not always cure. The same may be said of many surgical proceedings, which are justified by the plea that they prolong life or make the patient more comfortable.

EDUCATIONAL VALUE.

Although the results secured in the treatment of patients are so gratifying, this is but a small part of the work accomplished by the sanatorium. Its work is not only curative but educational. The daily sanatorium life is an education in itself. In addition to the requirements of the treatment proper, patients are instructed in personal hygiene, home sanitation, the prevention of the disease and rules laid down for their guidance after leaving the institution. Every effort is made to impress upon them the importance of prevention, which not only makes them harmless to their family and friends on their return to their homes, but also centers of influence in their respective communities in enlightening and educating the public in practical methods for the prevention and eradication of the disease. It is no reflection upon the medical profession to say that the intelligent patient on his discharge usually knows more of the practical application of the treatment of tuberculosis and its prevention than the physician who sent him.

Thus every conscientious inmate of an institution goes forth from it as a missionary, bearing with him a practical knowledge of tuberculosis and of the manner of preventing its spread. This he teaches to his friends, and in this way these institutions are able to reach a wide circle in an indirect manner. He has thoroughly learned the rules of health and hygiene. He teaches his friends the gospel of fresh air and sunshine in their homes and that regularity of life is essential to good health. Could this become more universal not only tuberculosis but many other diseases would rapidly diminish amongst us, and coming generations would be better and stronger and healthier. There is no grander work than that undertaken by our profession in the prophylaxis of disease. The communicable diseases are lessening rapidly through improved methods of sanitation. In the fight against tuberculosis there can be no better object lesson than the sanatorium and the successful work done by it. It is unquestionably the most far-reaching and efficient means of attacking the tuberculosis menace. The educational effect is more decided and far-reaching than the curative benefits can ever hope to be.

THE PATIENT.

In the treatment of most diseases the patient is a passive agent. This is not true in the treatment of tuberculosis. Here the patient is an active agent and without his intelligent and persistent co-operation the physician can do nothing. He is usually more of a problem than his disease, making it difficult to get him to accept necessary conditions. This grows out of the fact that he is not consciously sick. He is apt to estimate his danger by the severity of his symptoms. A slight hemorrhage from which there is no particular danger will strike him with terror, while a

high fever, rapid pulse or other really dangerous symptom he regards lightly or of no special significance. Patients almost invariably think they are in but little or no danger when told they have incipient tuberculosis. As a matter of fact they are in almost as much danger as if the disease was advanced. The distinction which should be made as between the early and advanced case is not in the element of danger but the degree of curability. An early diagnosis is not sufficient. It means nothing to the patient unless followed by prompt and efficient treatment. Exuberance of spirits leads to excesses which are innocent enough under normal conditions but are apt to be injurious and not infrequently fatal when indulged in by the tuberculous patient. We are constantly reminded by our patients, when cautioned against indiscretions which experience teaches us are dangerous, that there can not be any risk because they "feel so well." The patient is constantly being guided by his feelings in everything he does which makes him difficult to control. It is this one fact more than any other which makes control during the active stage of the disease so absolutely essential. Nothing is more misleading to the patient than his feeling of well-being which always accompanies improvement and convalescence. Too many patients when they get to this point think the race with death is already won. They are not unlike the driver in a race who slackens his speed, thinking the race won because he is ahead at the first quarter pole.

Character plays such an important part in the treatment that it is reasonably exact to say that the weak, mercurial patient who does things half-heartedly, who is constantly vacillating between duty and desire, or who does his duty only under the spur of fear, may do well for awhile but is almost sure after he has made a fair recovery to break away and undo in a day or a week all he has gained in months. Too many are satisfied to keep just a little ahead of the disease instead of using every opportunity to make a complete recovery. On the other hand, the patient of strong character has a great protection against relapses. He only needs to be reminded of dangers to avoid them. When told to lead a regular life, deprive himself of pleasures and avoid dissipations he never murmurs or flinches but accepts the situation gracefully and cheerfully. The result is he gets well easily and remains well. Character is such a determining factor that by its aid a desperate case may get well while one with less determination in the incipient stage will not. Indeed, it may be said that it is only the patient of strong character who does get well when the disease is well advanced. It is not possible to do more for any patient than he will accept. The wisest advice will avail nothing if he is not sufficiently impressed with the importance of proper living to put into practical operation the advice given. No institution or system of treatment can supply deficiency of character in a patient who is weak and vacillating. All that can be done for any patient is to afford him an opportunity. He must improve his opportunities or they are worthless.

SOCIAL LIFE.

There are many misconceptions as to the disagreeable features of sanatorium life. In addition to the exaggerated idea as to its discomforts, many patients hesitate to enter the sanatorium because they dread the depressing influences to which they fear they will be subjected. The facts are that there is nothing about the sanatorium which savors of the hospital—not even in its construction. The patients who are admitted are, as a rule, able to care for themselves. There is a feeling of comradeship such as usually obtains in an educational institution. Patients are taught to think and talk about everything else except their disease. Care is taken that a spirit of hopelessness and cheerfulness shall prevail. In addition to the daily routine of sanatorium life, which of necessity becomes monotonous, reasonable efforts should be made to relieve the monotony so far as may be by amusements, entertainments and other suitable diversions. In providing amusements care must be taken to not let patients get the impression that the sanatorium is simply a place of amusement. This, like every factor of treatment, must be nicely adjusted, always preserving the sense of proportion and relation to other features of treatment. Everything reasonable should be done to make it pleasant for patients, but coddling must be avoided. Those who must be coaxed to take treatment do not have sufficient stability to do any good. Coddling is fatal. Spineless people can not be cured.

At the Ottawa Tent Colony prominent citizens are invited to all social affairs and entertainments. They mingle freely with the patients and by this means become mutually helpful. The patients are entertained and made to feel that they are welcomed by the community; the visitors are instructed in hygienic living and the prevention of the disease, thus doing away with that unreasonable and unreasoning attitude toward sanatoria and the tuberculous patient which has been such a serious obstacle to the institutional care of the tuberculous invalid almost everywhere. The social life of the colony is made attractive. Instead of being the cheerless and forbidding place that many conceive it to be, it is exactly the reverse. New arrivals, their friends and visitors invariably give expression to their surprise at the entire absence of the disagreeable features which they anticipated must of necessity be connected with the treatment, and the general tone of cheerfulness and good feeling which prevails. The psychological phase is so very important that it would be impossible to successfully apply the treatment were this element neglected or ignored. It not infrequently occurs that patients become so attached to the institution and their newly-made friends that they are loath to leave when they are ready to be discharged.

CONCLUSION.

I trust that in presenting the mistakes and misconceptions with regard to the modern treatment of tuberculosis that I have avoided conveying an impression of pessimism or discouragement. The wave of enthusiasm which now characterizes the reception of the treatment in certain quarters needs guidance more than stimulation. The prevailing

opinion as to the ease and certainty of the cure of tuberculosis under present conditions is misleading and is resulting in many fatal mistakes in its application. Sanatorium workers are the watchmen on the outer walls. We see the danger from misdirected enthusiasm and would fall short of our duty if we did not add a word of caution, for the public interest upon which we build our hopes has also its element of danger unless wisely guided. Calling attention to mistakes leads to their correction. We already have enough knowledge of tuberculosis to both prevent and cure it if properly applied. We have an army of research workers who are supplying us with the necessary scientific facts. What is needed is more field workers to perfect methods for putting into effect what we already know. It is only by a practical application of scientific knowledge that it becomes valuable. It is as pathetic as it is disheartening to see the vain attempts to accomplish a possible end by impossible means as is so frequently done. However, with all its difficulties and discouragements the warfare against tuberculosis is steadily advancing and to those who are bearing the "heat and burden of the day" it offers so many humanitarian, social and scientific incentives to endeavor that it will never be allowed to stop until our day dreams are realized and the "great white plague" is numbered among the diseases that were.

A NEW METHOD OF DIAGNOSIS AND TREATMENT OF FISTULOUS TRACTS, TUBERCULOUS SINUSES AND ABSCESS CAVITIES.*

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The present methods of diagnosis and treatment of fistulous tracts are still imperfect. This is evident from the fact that so many cases remain uncured, after they have received the best medical and surgical treatment. Surgery has so far been the only means which to any degree has succeeded in curing these fistulous tracts, and whenever it failed it was usually due to the lack of knowledge of the extent of the disease. A number of sinuses were usually overlooked and consequently the operation was incomplete and failed to close the fistula.

I shall demonstrate to you this evening a new method of diagnosis, which will enable the surgeon to see every portion of the sinus or fistula even before an operation is decided upon. He will know exactly the extent and direction of the sinuses and plan his operation accordingly. I shall further demonstrate a new method of treatment of fistulous tracts, which in the majority of cases makes an operation altogether unnecessary.

The new method of diagnosis of the above affections consists in filling the fistula or abscess cavity with a bismuth-vaselin paste and then taking a radiograph of the region affected. A radiograph so taken clearly marks out the boundaries of the fistula, showing every part of the chan-

* Read before the Chicago Medical Society, Jan. 15, 1908. For discussion see p. 456.

nel, no matter how extensive or how tortuous it may be. Bismuth, as is well known, offers great resistance to the penetration of the *x*-rays and is, therefore, a very suitable material for this class of radiographic work. The shadow obtained by its use represents the true picture of the shape and ramification of these cavities within the tissues. (The radiographs, Figures 1 and 3, illustrate this fact.) They show what can be done in exploring the origin, course and the extent of a fistulous network. In some instances the most surprising and unexpected findings are detected in this way. This method of diagnosis proves, for obvious reasons, a great advantage over the methods now in vogue, such as the probe, the injection of colored fluids or peroxid of hydrogen.

The diagnosis with bismuth radiographs has ascertained the cause why certain cases have not been cured after several operations have been performed. It demonstrated the uselessness of an operation which does not reach every part of the diseased tract. A subsequent operation under the guidance of this skiagraph diagnosis has, as a rule, proved successful. This method of diagnosis was developed by us since March, 1906, and has proved in our hands indispensable in the treatment of fistulous tracts. Before I describe the new method of treatment I desire to review briefly the methods now in vogue.

Surgery has done more than any other method so far. The surgeon aims to convert a fistulous tract into a healthy wound and thereby facilitate healing by granulation. In cases of osteomyelitis the sequestra are removed and all diseased tissues eradicated, so that a healthy cavity remains for granulation. Several methods have been devised to obliterate cavities thus created. One of these consists in the filling up of the cavity with decalcified bone chips, originated by the late Professor Senn. Another is the covering of raw surfaces by skin grafts or skin flaps. The Mosetig-Moorhof plug is another favorite method with surgeons for this treatment. Each of these methods has its merits and most cases will yield to this treatment.

But there still remains a class of cases to which neither of these methods is applicable, as, for instance, a fistula following psoas abscess. Other cases, again, will keep on suppurating in spite of all skilful treatment. Patients are willing to undergo many operations before they give up entirely. With each successive operation undertaken the patient and surgeon hope to achieve a cure, only to meet with another disappointment. I present several such cases. In the interval of these operations other methods are usually tried. Irrigation with antiseptic watery solutions, as, for instance, boric acid, solution of 1 per cent. iodine or a weak solution of silver nitrate.

The habit of irrigating these chronic fistulous tracts with any watery solution is to be condemned. It is more harmful than beneficial. The fluid fills up the sinuses and keeps their walls in a macerated condition, thereby preventing the formation of healthy granulations. I would sooner advocate the drying-out of these cavities by strips of gauze instead of macerating them with water. This, however, is often impossible. Injection of alcohol, however, on account of its desiccating property, is

permissible in these wounds, providing they do not communicate with hollow organs.

This is, then, a résumé of the principal methods of treatment in vogue at the present time. Most cases will yield to either one or the other method, but a percentage will remain uncured after all have been tried. This statement is supported by the fact that cases travel from year to year in clinics, then try osteopathy or other similar inefficient methods, until finally they are resigned to their fate and are content with daily dressing.

The new method of treatment is quite as simple as that of diagnosis; in fact, the same process applies to both; it consists likewise in the filling of the fistulous tract with bismuth paste. THE INJECTION OF LIQUEFIED BISMUTH-VASELIN PASTE IS NOT ONLY VALUABLE FOR DIAGNOSTIC PURPOSES, BUT FOR CURATIVE PURPOSES AS WELL. The first case injected for diagnostic purposes led us to this important discovery. It disclosed the new method of treatment. After one single injection of the bismuth paste a fistula following a psoas abscess (Fig. 1) which had existed nearly two years, had entirely closed up and has remained so up to date. Other cases were subjected to the same treatment with similar results. To illustrate this I shall report Case No. 1 at this point:

CASE I.—A. D., who is now 6 years of age, presented herself at the hospital in March, 1906, with a fistula resulting from a psoas abscess which had continued to discharge pus for nearly two years, and required daily dressing. Bismuth injection for diagnosis was made April 23, 1906. The skiagraph (Fig. 1) demonstrates that the fistula extends from Scarpa's triangle along the psoas muscle up to the junction of the second and third lumbar vertebræ. There the bismuth fills out the space about three-quarters of an inch long and about one and one-quarter inches wide, right in front of the second and third lumbar vertebræ. A small cavity of the size of a hazelnut is also found on the opposite side of the vertebral column.

The parents returned a few days later stating that for the first time in two years the fistula stopped discharging pus. They were told that this might be only temporary, we having often observed a temporary cessation of fistulous discharge. They returned, however, on June 22 (two months later), the fistula still remaining closed and the child had no symptoms which would indicate any retention of pus. Thereupon we took another skiagraph and found that the bismuth had disappeared. It had probably been absorbed, because the parents stated that none of the material had been found on the dressing. The patient is well, the fistula having remained closed up to this day.

A series of cases subsequently treated by this method proved to us that the cure in Case No. 1 was not accidental but that we could obtain equally good results in other similar cases.

Up to this day we have treated 14 cases: 2 cases of spondylitis and psoas abscess, 2 and 16 years' duration; 1 case of tubercular hip-joint, 16 years' duration; 1 case of tubercular knee-joint, 7 years' duration; 1 case of tubercular pelvis, 3 years' duration; 1 case of tubercular ulna, 6 months' duration; 1 case of chronic osteomyelitis of femur, open since 1899; 1 case of fistula after resection of tubercular kidney, 1 year's duration; 3 cases of rectal fistula, 2 and 1 year and 6 months;

1 case of abscess of lung, 9 months' duration; 2 cases of abdominal fistula following laparotomy, 4 months' and 1 year duration.

The method is applicable to all fistulæ or abscess cavities except intraerianal sinuses or biliary fistulæ.

We desire to give a history of some of the cases in detail and the results of our treatment. By doing so, however, I wish to speak of the method of injection and give the formula of the paste:

FORMULA OF PASTE FOR DIAGNOSIS AND EARLY TREATMENT.

Bismuth subnitrate	30.0 grams.
Vaselin	60.0 grams.
Mix while boiling.	

FORMULA OF PASTE FOR LATE TREATMENT.

Bismuth subnitrate	30.0 grams.
White wax	5.0 grams.
Soft paraffin	5.0 grams.
Vaselin	60.0 grams.
Mix while boiling.	

In some cases we have added 1 per cent. formalin. It is generally believed that paraffin does not absorb in the tissues. This applies only to hard paraffin. The soft paraffin is absorbed. This has been amply proven by the experiments of Drs. Kirchner and Eckstein, of Berlin, in 1905 and 1906.

Care should be taken that no water should accidentally be spilled into the paste during the process of boiling, and the glass syringes must likewise be sterilized by the dry process and the plunger dipped in sterile oil, instead of water, before charging the syringe.

METHOD OF INJECTION.

The fistula should first be dried out, if possible, by packing into its depth a strip of plain gauze, one-half to one inch wide, and removed just before the injection of the paste. The emulsion is sterilized before using and the syringe charged while the emulsion is hot and liquid. (It is sufficiently cooled by allowing cold water to run over the syringe until the contents are of the right consistency.) A glass syringe with a nozzle similar to that of a Valentine irrigating tip should then be loaded with the bismuth paste and tightly pressed against the fistulous opening; the emulsion is forced in very slowly until the patient begins to complain of pressure. The syringe is then removed and a small gauze sponge is quickly pressed against the opening to prevent the escape of the paste until it has sufficiently hardened. An ice-bag may be applied to hasten the hardening of the material. I inject the bismuth-vaselin paste until pus discharge ceases, and then use the harder preparation containing wax and paraffin, after which it usually remains closed. The injections are painless and produce no unpleasant symptoms. In several hundred injections we have had no accidents, such as hemorrhage, sepsis, embolism, etc.

The composition of these substances is subject to further experiments. There are probably substances which will prove superior to those which we have used. It is my opinion, however, that the healing does not

depend very materially on the particular chemical substance as long as it is a material which is liquid when injected and rapidly solidifies after injection. The solid substance acts as a framework for the formation of healthy granulations.

Besides, it is probable that the bismuth, which becomes radio-active by the exposure of the *x*-rays, aids the formation of granulation on the walls of the fistulæ, with which it comes in direct contact. To increase the radioactivity I have added in some cases strontium salicylate and exposed the patient to the *x*-rays for one or two minutes after injection.

Later the bismuth-vaselin is undoubtedly absorbed and the connective tissue remains and contracts, thereby obliterating the sinus. This principle of bridgework as an aid to healing of suppurative processes has lately been demonstrated in many instances. For example: the filigree of Bartlett in healing suppurative wounds. The filigree serves as a trestle-work for the formation of connective tissue, but has the disadvantage of not being absorbable. I venture to say that if I placed a filigree spiral into a straight fistula it would serve a similar purpose of a bismuth plug. The Moorhof wax plug probably acts on the same principle and likewise the decalcified bone-chips of Senn.

CASE 2.—M. Y., aged 14, born in Germany, lived there until 1903; family history negative. He was healthy until he was 7 years old, when he developed a painful swelling in his right knee. A cast was put on by his family physician for the purpose of immobilization. In a short time an abscess ruptured, and the boy was transferred to the hospital at Freiburg, in Germany, and an operation was performed for tuberculosis of the knee-joint. He left the hospital seven weeks later with a sinus extending from the knee-joint into the middle of the tibia, and two smaller ones near the joint.

A short time later he returned to the hospital for another operation, which, however, failed to close the sinuses, and a third operation was performed two months later, again with an unfavorable result. The parents then took the boy to Tuebingen, where Professor Bruns performed the fourth operation. No improvement, however, resulted and three fistulæ persisted as before. The family then moved to America, in June, 1903. They had abandoned all medical treatment. Nothing more than daily dressing was done by the patient himself.

On March 21, 1907, at the age of 13, six years after commencement of the fistula, he came to me for treatment. A radiograph without bismuth injection was first taken. It shows the joint and the epiphyses of femur and tibia nearly destroyed, and a sequestrum is clearly visible in the tibia. I proposed an operation, namely, the resection of the knee-joint, which was refused. I then decided the next best procedure, and cleaned out the knee-joint, removing the sequestrum as radically as possible. This was done March 29, 1907, with the same result, namely, three fistulæ persisted. I then decided to try Professor Bier's hyperemia method, which was carried out for four months, but without result. At this time our experiments with bismuth injection were so promising that I decided to try it in this case also.

The first bismuth paste injection was made October 3, 1907, and fistula at once showed the tendency to healing. After three injections, at one month's interval, the sinuses became nearly closed, and I could only with difficulty make the fourth injection, of which I took a radiograph. Since that time all fistulæ remained healed, the boy became stronger, the pain entirely disappeared, so that he could discard his crutches, which he had used for seven years. He can now skip on the tubercular limb up and down stairs; his weight increased fifteen pounds.

CASE 3.—Herman A., 19 years old; clerk, with good family and personal his-



Fig. 1.—Psoas abscess fistula. Child 4 years old. A. Point of injection of bismuth paste. B. Depth of fistula.



Fig. 2.—Lung abscess. Boy 19. A. Point of injection of bismuth paste, cavity nearly filled.



Fig. 3.—Tubercular sinuses from iliac bone (Case 6). A. Point where bismuth paste was injected previous to operation.



Fig. 4.—Rectal fistula (Case 7.) A. External opening where bismuth was injected. B. Part of fistula which was overlooked during first operation. C. Constricted part of fistula. Parallel black lines—soft catheter in the rectum.



Fig. 5.—Fistula following nephrectomy for tubercular kidney (Case 10.) A. Point of injection of bismuth paste. Fistula now closed.



Fig. 6.—Fecal fistula, following gangrenous appendicitis. A. point of injection of bismuth paste.



Fig. 7.—Fistula following resection of head of femur eight years' standing. A. Coin placed over mouth of fistula. Fistula remained closed after one injection.



Fig. 8.—(Case 5.) Tubercular spondylitis with psoas abscess. A. Coin placed over fistulous opening.

tory, was for the first time in his life taken sick in January, 1907, with an attack of muscular rheumatism and bronchitis. Pleurisy with effusion followed, which turned into an empyema. On March 19, 1907, two ribs were resected and the pus from the cavity evacuated and drainage established. The wound closed up two weeks after the operation, but in two weeks reopened and persisted in discharging a dark green pus of a very fetid odor. The young man was brought to me on Dec. 20, 1907, by his physician, Dr. Lunn, with the fistula still discharging from two to three ounces of pus daily, in spite of all treatment in the past eight months.

A skiagraph was taken before and after bismuth paste injection (Fig. 2). These skiagraphs demonstrate the extent and location of the pus cavity. In this case we left out all drainage at once and injected the cavity daily with a bismuth-vaselin paste. It kept on discharging. The pus, however, diminished every day in quantity and the odor of same was materially changed after a few days. After ten injections the wound ceased to discharge any pus and remained dry for three days. I suspected that there was retention of pus, and therefore inserted a rubber tube, which passed in with some difficulty. Then I ordered the patient to close his mouth and nostrils and distend his lungs as much as possible. This brought out the material in a semi-liquid state and hardened immediately in the basin. No pus followed after all material was forced out. This incident indicated to me that the body temperature kept this bismuth-vaselin in a liquid state, and I therefore concluded to add wax and paraffin to same, and to the next injection. This was done January 10, and the skiagraph shows that the cavity is nearly obliterated with the paste.

The fistula closed up entirely next day, and no unpleasant symptom followed, except that during a coughing spell some of the injected material was coughed up through the mouth. This proves that this was an abscess of the lung which, by the way, was suspected by the character and odor of the pus discharge. The young man is well, his fistula is closed, and he is feeling first-rate.

This case teaches us that an empyema of the pleura or abscess of the lung can be likewise cured without an extensive operation, such as Schede's, which was contemplated in this case.

CASE 4.—Miss M. G., 21 years of age, was well, but not strong, until 6 years of age. All other members of the family were healthy and strong, at least no tuberculosis existed. At the age of 6 she developed a pain in her right knee. For about a year it was looked upon as growing pains and treated with liniments. At the age of 7 she was brought to Galena for examination, and Dr. Godfries punctured the hip-joint and found thick pus. She was then brought to Warren and operated by A. F. Buckman for tubercular hip-joint disease. The wound kept on discharging and dressings were so painful that it often required an anesthetic during this procedure. One-half year later another radical operation was performed by Dr. Godfries, removing the head of the femur. This, however, did not prove successful, and since then thirteen more operations were performed at intervals of six months to three years, all of which likewise proved unsuccessful to heal out the sinuses. The last operation was performed by the late Professor Senn, in June, 1907, at the St. Joseph's Hospital. It was the most radical operation, in which the acetabulum was everted and all necrotic bones and tubercular granulation removed, but the fistula persisted in discharging small quantities of pus, which required daily dressing.

On Dec. 10, 1907, she came to me for treatment. The x-ray and radiograph shows that the fistula originated in the acetabulum. The injection of paste was carried out every two or three days, and a 1 per cent. formalin solution was added. So far ten injections were made, and since then the fistula has ceased discharging. Another injection of bismuth-vaselin and paraffin was made, but only a very limited quantity would penetrate, showing that the fistula is ready to close.

CASE 5.—E. S., aged 21, parents both healthy. At the age of 4 an abscess developed in the left knee which ruptured spontaneously and a fistula remained. The physician then attending him must have discovered Pott's disease, since he put on a plaster corset, and later a brace was substituted. At the age of 7 two

abscesses ruptured, one on the left side of his back and the other around the left hip. Operations were then performed from time to time, fifteen in all, some of them quite extensive, with the final result that eight fistulae remained. In this condition he presented himself for treatment in April, 1906. (See Fig. 8.) So far 55 injections have been made and slight improvement is noticeable. The final outcome of this case is problematical, since the entire pelvis and both lower limbs are undermined with fistulous tracts and a sacral fistula communicates with the rectum, discharging fecal masses. I shall continue treatment and report the final result later on.

CASE 6.—Miss E. S., 18 years old, has had the usual diseases of childhood, but no evidences of tuberculosis. In 1904 she developed an abscess in the region of her right hip. Same was incised and drained, but showed no tendency to heal out. Temperature varied from normal to 104°; pulse, 140. Fistula resulted and kept on discharging until May, 1906, when she returned for further treatment.

Examination.—The probe enters the sinus about four inches, passing internally over the crest of the ilium; discharge slight. No skiagraph was taken. An operation was advised and performed by Dr. Carl Beck May 19, 1906. The sinus was freely opened and several pockets exposed and curetted, but no necrosis of bone discovered. Wound was dressed daily, irrigated with sterile water and H₂O₂, sometimes iodoform emulsion injected. She left the hospital July 17, 1906, and while she had no fever and had gained in weight, her fistula persisted in discharging pus. She returned on Dec. 4, 1906, in an ambulance, with a temperature of 102°; pulse, 114.

A skiagraph of the pelvis was then taken after the fistula was injected with the bismuth paste and demonstrated to us the network of sinuses present, and taught us the uselessness of an operation which does not explore every recess of the fistulous tract (Fig. 3). An extensive exploration of all sinuses was performed December 12, and every sinus scraped and packed with gauze. Temperature remained normal after operation. The wounds healed very rapidly, and bismuth paste was injected for a short time into the closing wound, and the entire process healed up. Patient left the hospital Jan. 30, 1907, in first-class condition, with fistula healed up for the first time in three years. We have received a report from her, Jan. 15, 1908, that she is entirely well.

CASE 7.—J. P., aged 18. Family history: Father and mother living and well; three sisters and two brothers well; one sister died from bronchial trouble; one baby sister from tuberculosis.

Past History.—About a year ago he had chills and fever, and pain about the rectum. An abscess formed and broke at a point one inch from the anus. Sinus persisted up to the time of examination. Operation was performed May 10, 1906. The sinus was slit open into the rectum. All visible recesses were thoroughly curetted and packed with iodoform gauze. After-treatment consisted in daily irrigation with boric acid and cauterization with 20 per cent. silver nitrate, but fistula showed no tendency to heal.

Bismuth paste was then injected into the sinus for diagnostic purposes only (Fig. 4). This clearly demonstrated why we had no success in the first operation, because another abscess existed higher up, which communicated by a constriction with the fistula operated upon at first. Another operation was at once decided upon and performed on July 7, 1906, and the sinus extending about two inches in the direction of the prostate was curetted. From this time on the healing went on rapidly. Patient slept out of doors, gained about twenty pounds in weight, and was discharged, cured, by Sept. 7, 1906. Bismuth injections for therapeutic purposes were not necessary in the case, since the fistula healed out after the second operation.

CASE 8.—A. G., 18 years old, always well until spring of 1907, when he developed on the left side a mastoiditis, and was operated upon and cured. Three months later he returned to the hospital with a mastoiditis on the right side. Was again operated upon, and also with good results. During his stay at the hospital we accidentally discovered that he had a rectal fistula, and upon inquiry

we found that he had an abscess opened about three weeks before he entered the hospital by his house physician. We took a radiograph after injection of bismuth, which clearly demonstrates the extent of the fistula. For comparison we took another after inserting a probe as far as it would reach, without using any force. Comparison of the two radiographs shows that the bismuth penetrated about one inch higher than the probe. We advised a radical operation, to which he readily consented, and which I performed on Nov. 30, 1907, in the usual way, by splitting up the fistula into the rectum. During the operation we found solidified bismuth paste filling out the deepest part of the fistula. This bismuth had been in two weeks, since no injections were made two weeks previous to the operation. He made a splendid recovery after the second operation.

CASE 9.—Mr. M. A., 25 years of age; family history, non-tubercular. In the fall of 1905, he was operated on for acute gangrenous appendicitis, which was followed by a fecal fistula and same persisted for four months. A secondary operation failed to close the fistula, since the patient refused a general anesthetic. Although the fistula discharged very little fecal matter, it discharged pus and gas. He was then treated for six months with silver nitrate canterization, without any material improvement. In August, 1906, we took a radiograph with an injection of bismuth paste (Fig. 6). The radiograph demonstrated the uselessness of our silver nitrate stick treatment. (You note on the *x*-ray picture the extent of the fistula.) It is a cavity which undermines the muscles for two inches in diameter. This one injection was sufficient to obliterate this fistula. Patient lives in Milwaukee and presented himself a month ago (one year after the injection) with his fistula still closed.

This case demonstrates that, even if the fistula communicates with the intestine, it is possible to obliterate same by the bismuth paste injection.

CASE 10.—Mrs. H. R., aged 26; was operated upon Jan. 7, 1907, by Dr. Carl Beck for tubercular kidney. The right kidney was removed; it contained a number of abscesses. It required a large incision, and the ragged cavity which remained after removal was packed with gauze for drainage. After long and tedious treatment, such as irrigation, the patient improved in general health, but the fistula showed no tendency to healing, and the patient left the hospital May 22, nearly six months after operation, with very little hope that her fistula would ever close. About three months later, when our experiment with bismuth injection became encouraging, we sent for her, intending to try this method upon her, with the view of closing her fistula. She returned Sept. 3, 1907, and the first bismuth injection was made, of which we have a skiagraph (Fig. 5). It shows that the fistula reaches up to the diaphragm, about four and one-half inches in length. From September 3 until November 13, only five injections were made, and a decided improvement followed. Patient, however, did not wish to remain longer at the hospital, and returned once a week for injection of bismuth. The case is not yet healed up entirely, since the treatment was carried out with irregularity; sometimes two weeks elapsed between the injections.

The second radiograph, however, proved that fistula is reduced to about one-half, and discharge also is not nearly as much as before. Patient's general health is very much improved; gained two to three pounds a week. I advise now three injections a week.¹

CASE 11.—This case was brought for diagnosis to Dr. B. G. Katz, who has been kind to assist me in this work. We have been able to obtain a history from Dr. Maurice B. Wolff, under whose care he was, and we are very glad to be informed that the case healed out entirely from the one injection. Here is the complete history of the case as given by Dr. Wolff:

J. G., aged 26. Patient first had trouble with right leg in spring of 1898. There was no history of any decisive injury, although he played football that season at military school. A diagnosis of tuberculosis was made at this time, and he was in bed with extension until the following November. He walked with crutches until the next April, when he fell and injured the leg, with resulting abscess, which was opened and drained in October, 1899. This was on the anterior

1. This case has ceased discharging since paper was read.

surface of the thigh. Two days later another incision was made over hip. Three weeks later resection of right hip joint was performed. He recovered and got around with crutches until April, 1900, when femur was curetted for more abscess. In May lower femur was curetted for same trouble. Was all right until 1902, when he fell again, and was in bed three weeks with extension. At this time *x*-ray showed process still active, and some spicula of bone were removed from upper femur. Was all right again from then until I saw him in July, 1906. A small abscess, without history or pain, had developed on outer surface of thigh. Examination showed immovable hip-old scars; about two inches shortening. Abscess was opened and small quantity of pus and necrotic tissue removed. There was a sinus present running upward and backward. Was treated by usual means until August 2, when Dr. Katz took *x*-ray picture with the method for showing sinus (Fig. 7). The material injected I left alone, and simply applied clean external dressings daily. Wound was entirely healed on September 22, and I have seen patient occasionally since, and there has been no recurrence and patient had no trouble with leg to date.

CASE 12.—Osteomyelitis of ulna. Patient, 3½ years old. Mother died of pulmonary tuberculosis two years ago; father is well. At the age of 1 year the child developed abscesses at the outer angle of both eyes, and one in front of the right ear. The child was operated at three different times for same by Dr. Brady, in Jerusalem, and all wounds healed out. The diagnosis was made of "tubercular bone disease." The people then came to America, and at the age of 3 years the child developed a swelling over the left forearm. This swelling was incised at the Children's Hospital; pus evacuated, and a fistula persisted ever since, nearly six months, and required daily dressing. On December 26, child was brought to us for treatment. An injection of bismuth paste was made and shows the origin of the sinus in the center of the ulna. This one injection dried out the fistula, another injection closed it permanently.

CASE 13.—G. B., 8 years old. Was born with absence of rectum and a colostomy was performed under general anesthesia when the baby was only sixteen hours old. During the first four years of this child's life he had two plastic operations on his rectum, which consisted in the formation of an artificial rectum, and closing of a congenital recto-vesical fistula. While the boy had a satisfactory result and could hold his passage, it was not considered safe to close up the colostomy, and so he continued to be happy with his opening of his colon on his abdomen. At the age of 7, however, it was decided to close the abdominal opening. This was done in June, 1907, but a small fistula remained for several months. Finally, an injection of bismuth paste was made, after which the fistula healed up and never opened up again.

It is noteworthy that all these patients are below the age of 30; average age is 16. It is the young people, then, who are thus afflicted, and the cure of this malady is, therefore, so much more important.

One of the cases has only recently closed up and it is possible that it may open up again, although this has not occurred in the cases of nearly one and a half years' standing. If it should open up again the injections will be at once repeated.

CONCLUSIONS.

1. A successful surgical operation of fistulous tracts depends principally upon the exact knowledge of the extent and direction of the sinuses before operation is undertaken.

2. Radiographs taken after the fistulæ have been injected with bismuth paste show distinctly the extent and direction of the fistulous tract.

3. Skiagraphs of all fistulous tracts should be taken before an operation is decided upon.

4. Fistulous tracts, tubercular sinuses, or abscess cavities, including empyema, can be cured by injection of bismuth paste.

5. Cavities or fistulæ should be as clean and as dry as possible before the injection of bismuth paste.

6. The bismuth paste, when mixed with wax or soft paraffin and injected in liquid state, solidifies in the fistula and serves as a framework for new connective tissue. The paste is absorbed and the fistula obliterated.

7. Bismuth paste injection will not heal out sinuses where sequestra are present. Same must be removed before injection.

8. The bismuth paste injections are painless and produce no unpleasant or dangerous symptoms.

SOME IMPORTANT POINTS IN THE TREATMENT OF SYPHILIS.*

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CHICAGO.

It has seemed to me utterly impossible to attempt a complete presentation of so vast a subject as the treatment of syphilis within the limits of a necessarily brief paper, and I have, therefore, chosen to discuss a few phases of it only in a somewhat aphoristic form.

Of the utmost importance is the question as to the proper time when to begin the constitutional treatment of a recent infection with syphilis. Without entering upon lengthy details, largely of historical interest, it may be said as a preliminary that all efforts at aborting the disease by the excision of the primary lesion have proven, in the overwhelming majority of cases, absolute failures. Jadassohn is to-day one of the very few authorities who still practice that almost hopeless procedure which does not even seem to modify the intensity of the succeeding manifestations. The presence of an indurated chancre means more than a local lesion; it indicates a systemic infection which has reached beyond the surgeon's knife.

Traditional teaching has heretofore been pretty universally in favor of waiting with constitutional treatment until the advent of the so-called secondaries. It is time to break with that tradition. To permit for weeks the continued dissemination and multiplication of a virus within the system without interference is a practice unknown in the management of any other disease. We are told that preventive treatment succeeds only in delaying the appearance of constitutional symptoms, which later on will assert themselves after all in an irregular and unmanage-

* Part of a Symposium on Syphilis before the Chicago Medical Society, Jan. 29, 1908. For discussion see page 469.

able fashion. But this fable is easily discredited by thousands of actual tests.

To my mind the proper time to begin the constitutional treatment of syphilis is the moment when we are absolutely sure of our diagnosis and when our patient shares our conviction. Whether the demonstration of the spirochætæ in the primary lesion is sufficient for such an assurance is a matter which at the present moment may be considered still *sub judice*. Whenever that or any other organism will eventually have been proven as the real cause of syphilis beyond all doubt, our attitude toward that momentous question will be sufficiently fortified. But by that time we may hope for an entire revolution in our therapeutics of syphilis. At present we must continue to use careful clinical methods for our diagnosis, such as the regular observation of the temperature, repeated palpation of the lymph glands, occasional blood counts, and close estimation of the patient's subjective symptoms, such as nocturnal headaches, and the like. Whenever these factors are in favor of a diagnosis of syphilis, when the chronology in the development of the chancre is in accord with our knowledge, we should be ready for active medication even without waiting for the appearance of an exanthem. Even the conservatives are willing to admit that when the location of the primary lesion is such as to be especially conspicuous or to endanger a neighboring organ, as, for instance, when situated on the eyelid or the lip, it is best to commence treatment at once. Such an admission shows the weakness of their whole attitude. To illustrate some of the difficulties which, however, may be presented in practice, permit me to cite two illustrative cases:

1. A young gentleman, the brother of a physician, came to me last spring with an insignificant-looking, small lesion on his glans penis which had appeared within ten days after recent exposure. For three months I kept him under close observation without noticing any further development, neither objective nor subjective symptoms being sufficiently pronounced to justify the responsibility of pronouncing the judgment of syphilis and of planning a treatment for years. At last a faint roseola made its appearance, the ganglia became enlarged and the diagnosis was finally made possible.

2. In another instance a prominent lawyer of the city was brought to me with what appeared to be a typical chancre of the lower lip. A well-developed submental bubo facilitated the recognition of the real nature of the lesion. But the man stoutly resented the allegation of having syphilis and insisted upon waiting for further proofs. These did not fail to appear within six weeks, when treatment was begun.

Whenever our diagnosis is made, the treatment to be given should be as energetic as the constitution of our patient may permit. That mercury in some form should be the remedy selected need not be emphasized. Among the many methods of administering it, however, only two deserve, to my mind, the distinction "energetic," namely, inunctions and injections. I know only too well that, particularly in this country, the internal use of mercury is still most popular; in fact, protoiodid of mer-

cury occupies almost completely the average physician's therapeutic horizon, to the exclusion of everything else. It is far from me to deny that often satisfactory results are reached with this drug and I certainly would not like to miss it for the purpose of occasional intermediate treatment, but it can never be compared in efficiency to the two first mentioned methods. Its often irritative effect upon the digestive tract, the impossibility of insuring its complete absorption, dependence upon the patient's regularity in taking his medicine, the inclination of the average patient to continue for months with this same remedy and thus creating an undue tolerance, besides depriving the physician of the occasion to regularly examine him, are some of the objections to that practice, especially during the first part of the disease.

In this connection I might mention one other drug, intended for internal use, which is my first choice whenever neither inunctions nor injections can be given for reasons beyond our control. I refer to the tannate of mercury, first introduced by Lustgarten in 1884 and about which it was my privilege to make a brief communication to this society during the same year. This preparation has since become well known, but as far as I can judge is not used as extensively as it deserves.

As to mercurial inunctions, they need no defense. That method has stood the test of centuries and still occupies to-day its firm place, chiefly at certain resorts in this country and abroad. I have never met with any serious objection to it on the part of my patients, nor have I found it necessary to employ a professional rubber. The many substitutes for the well-known official blue ointment, such as mercurial soap, mercurized lanolin and others, offer no particular advantage. For the most recent of these surrogates, Mitin mercury, introduced by Jessner, of Königsberg, it is claimed that it produces a minimum of irritation upon the skin and that it is absorbed by it in less than half the time required for the ordinary blue ointment. The claim that the effect of mercurial inunctions is due not to an absorption by the skin, but to the evaporation of the metallic mercury, which then is inhaled, has led to a number of innovations. A small amount of the salve contained in a little bag suspended around the neck, or the wearing of a specially prepared mercurio-lint, are said to act as promptly as the more cumbersome antiquated method; but I have no practical experience with these fads.

We are ever again confronted with the claim made by physicians at Hot Springs and similar places that the inunctions as carried out there are so much more effective on account of the simultaneous use of their natural hot baths. This is a pardonable trade cry, but not borne out by scientific facts. Down there they insist upon giving the rubbings upon the backs of the patients, which is the only place that the patients can not reach themselves. With the mastery of the quite simple technique we can do equally as well at home. The plain advantage of the resorts lies in the fact that patients there give up completely to their cure, and under the continued watchfulness of their doctor behave better than they would at home.

In the last fifteen years I have, however, had less and less occasion to

employ inunctions, since the injection method, on account of its elegance and almost mathematical accuracy, has proved so far superior. It seems strange that this form of treatment should have found so few followers in this country. It invariably appeals to intelligent patients who are only too willing to submit to a form of medication which in the most direct manner acts upon their diseased blood, which relieves them of all thought of taking their little pills, which necessitates no special dietary precautions, which is clean and brings them in regular contact with their physician for the purpose of close observation, and which, if skillfully administered, causes no undue amount of pain. Their efficiency is never disclaimed; not even by those authors who write of them largely as a matter of hearsay. Their dangers are enormously exaggerated and with the observance of proper technic, a suitable instrumentarium and a reasonable asepsis can be reduced to practically *nil*.

In speaking of mercurial injections, it is proper to differentiate between soluble and insoluble preparations. The former are absorbed quickly and eliminated promptly and, therefore, have to be repeated often. The latter form a sort of depot from which small amounts of mercury are continually transferred to the general blood current and need to be given only in intervals of several days.

For many years and until rather recently I have employed only soluble salts, chiefly the bichlorid of mercury, in solutions of 1 to 1½ per cent., to which 2 per cent. of chlorid of sodium was added. I have always given them as deep intramuscular injections in the region of the gluteal muscles with a syringe mounted in hard rubber, the only metal part being the needle, about 1½ inches long, which frequently requires replacing on account of the corroding effect of the mercurial salt. The therapeutic effect has ever been prompt, and in over 20,000 injections given there has never been any serious accident. There has never followed suppuration; occasionally infiltrations would result which yielded in a short time. One single time the needle broke off. That happened in a young woman, a professional dancer, who just in the critical moment made a sort of a saltarello motion. She still carries the needle in her posterior department without any harm and has never desired its removal. Twice the needle inadvertently slipped into the subcutaneous tissue and caused a gradual sloughing of the skin in a small area. I frankly report these accidents to show their extreme rarity and their ultimate harmlessness.

Radically different from these intramuscular injections are the intravenous injections of bichlorid, which quite recently have found some warm advocates even in this country, although introduced as early as 1894 by Baccelli. The underlying principle is certainly sound in that they form the quickest possible way of introducing the supposed antidote directly into the blood. The technic is somewhat more complicated and as far as I can judge not free from danger or inconvenience, and, while they insure a rapid introduction of the desired remedy into the system, the question remains whether the equally rapid elimination is not a disadvantage rather than a benefit. I have no personal experience with

this method nor do I propose, unless better convinced of its claimed superiority over other methods, to acquire any. I may quote Weland, a recognized authority, who in a recent article draws the following conclusions after extensive tests. He says: "

"Intravenous injection of bichlorid of mercury is the quickest method of introducing mercury into the system, but, on account of many inconveniences, local disturbances of no small degree (phlebitis, infiltrates, erythema, edema) and the short time that the mercury remains in the system, it is suited to such cases only where a prompt mercurial effect is desired."

The attempts of substituting arsenic for the injected mercury in the form of atoxyl (meta arsenious acid-anilin) or of enesol, a combination of salicylated mercury with arsenic, are of too recent date to permit of intelligent judgment as to their value.

Concerning my attitude toward the injection of the insoluble salts, especially the salicylate of mercury, I must confess to a change of front on my part. Ever since the fatal results in four cases reported in 1884 by Runeberg in the *Deutsche Medicinische Wochenschrift* after injections with calomel, and noticing time and again the reports in the current literature of serious, sometimes fatal, accidents after the injection of Lang's gray oil and other emulsions or suspensions of insoluble preparations, I had retained an almost unconquerable horror against that kind of treatment, and even last June at the meeting of the American Medical Association I was free to express my earnest objections to them. But a very suggestive paper by Hartung on the value of these injections chiefly in cases of beginning locomotor ataxia, and personal interviews with their most enthusiastic advocate in this country, Dr. Gottheil, of New York, have finally led me to try the method, and an experience of about six months in about thirty cases has made me, so far at least, very optimistic. I might refer to several articles by Gottheil for elaborate details as to the technic which I have followed in the main. I have used a sterilized 10 per cent. suspension of neutral salicylate of mercury in liquid vaselin, injected into the depth of the gluteal muscles in intervals of four to seven days, with a special syringe made after Gottheil's suggestions. The efficiency of the treatment was especially conspicuous in a case of extensive ulcerations of the tongue of long standing in a man in whom this formed the only treatment employed. After only four injections given within about two weeks the tongue was completely healed. In five cases of deep-seated old syphilis, three with beginning atactic symptoms, two others with symptoms of pachymeningitis, the results so far are certainly encouraging.

With a strict observance of aseptic details the only danger of insoluble injections is the possibility of striking a blood vessel and thus producing lung embolism. But the observation of the never-to-be-violated rule of removing the barrel of the syringe from the needle after it is fully introduced and waiting for a few seconds for the bulging out of blood which promptly occurs when the point of the needle has pierced a vein, will easily protect one against that danger. The great advantage of these

over the bichlorid injections is their almost total painlessness and the small number of treatments required, which is particularly valuable in patients who live some distance from town.

The employment of these injections, especially in the deep-seated forms of syphilis, leads me to another important point. We have been taught for many years to consider mercury as the sovereign remedy for the recent manifestations of syphilis and to rely upon the iodids for the treatment of late symptoms. There seems to be a complete reversal of form on the part of most authorities in this respect, not that the early use of mercury is discredited, but its usefulness for the so-called tertiary lesions is everywhere admitted, and to the iodids is given largely the rôle of an adjuvant or of a substitute when mercury is not well borne. The finding of *Spirochæta pallida* in tertiary lesions and particularly in the organs of congenitally syphilitic children has had much influence in changing our views.

Before dismissing the subject of mercurial treatment I feel like adding that the one thing which is liable to form a stumbling block against its successful employment is the proneness of some patients to develop early mercurial stomatitis in such a degree as to make any further attempt at mercurial treatment hazardous. The strictest care of the teeth and whenever possible the preliminary attention to any derangement existent should always be a *conditio sine qua non*.

To discuss more fully the use of the iodids and the many modern substitutes for them, to ventilate particularly the question of the enormously large doses of potassium iodid as advocated by neurologists, might lead me into dangerous territory. I may say, however, that some of the substitutes recommended, as, for instance, the iodo nucleoid and iodalbumin which has quite recently been brought upon the market, seem to offer a fair advantage over the older forms in some respect, inasmuch as their action upon the skin is certainly very mild, nor do they seem to produce any other undesirable symptoms of iodism.

I can not refrain from making a remark upon the general non-medical care of our syphilitic patients. The regulation of their habits, proper diet, particular directions in regard to the use of alcohol and tobacco and in regard to sexual indulgence are matters of such paramount importance for the final result that too much attention can not be given them. I had one sad experience which forcibly illustrated to me the influence of the general mode of life of the patient upon the progress of the disease. A few years ago a lawyer in the city consulted me for a fresh infection with syphilis. In due course of time an energetic treatment was begun, but after a limited number of injections and when his condition seemed in every way satisfactory he insisted upon going to a neighboring town in Indiana, where he was engaged in an important contested will case. A short time afterward I was consulted by long distance telephone by the patient's brother, a prominent practitioner in that town, who told me that the lawyer in the midst of a public plea in court had become speechless. I had no hesitation in attributing this aphasia to cerebral syphilitic complications. I advised an energetic

course of inunctions. These were followed by a favorable result in a short time when the patient returned to my care and resumed his previously interrupted course of injections. But within a few weeks he again had grown over-confident, returned to the task of representing his client, evidently overworked himself, again developed cerebral symptoms and succumbed.

Another often neglected matter is attention to the local manifestations and employment of energetic means to stop their progress. This is a subject to which I have devoted a special paper some years ago. I have made the observation that many physicians in treating their syphilitic patients content themselves with the prescribing of constitutional remedies without any regard to the local lesions, even if they are destructive in nature. It is particularly in this class of cases of extensive ulcerations upon the skin and mucous membranes where properly employed topical treatment shows the most brilliant results.

The great question how long we should continue with our specific treatment is, indeed, hard to answer in a satisfactory manner. It would be the simplest to say that we should continue until the patient is cured; but unfortunately we have so far no definite criteria for such an accomplishment. Neither the most perfect freedom of the skin and mucosæ from any lesions, nor the total absence of enlarged glands are a sufficient guarantee for a cure. The minutest examinations of the blood will fail to give us satisfactory evidence. Even the production of a healthy offspring may mean no more than a latency of the disease. Under such circumstances we must rely exclusively upon experience in deciding how long we should best keep up active medication. The general consensus of opinion at the present time favors a more or less uninterrupted course of two to three years, and many authorities would rather exceed that term than shorten it.

A physician in the city whom I had under observation for many years on account of a serious case of syphilis, acquired in his professional work, once gave me this answer to my repeated advice to at last take a rest from his continued annual mercurial rubbings. He said: "I would rather have mercurial poisoning than locomotor ataxia." He has kept up his treatment for over ten years and he is perfectly well to-day.

That individualization in this regard as, in fact, in regard to all questions related to the treatment of syphilis is of the greatest importance, can not be gainsaid. A mild case may be treated by gentle methods; a severe case should be fought with the utmost persistence. Under no circumstances should we yield to the temptation of allowing our patients ever to share our pessimistic feelings concerning the ultimate results in the treatment of syphilis. We can never foretell what the final outcome in any given case may be. We have no right to boast that by the employment of such or any other method we can prevent the occurrence of that dreaded sequel of syphilis, locomotor ataxia. But we should ever be mindful of the fact that a majority of our patients who undergo a proper course of treatment get well and remain well.

MEMOIR OF COLUMBUS BARLOW, M.D.

MARY BARLOW.

ROBINSON, ILL.

Dr. Columbus Barlow, son of Jesse and Rebecca Biggs Barlow, was born near Eaton, Ill., April 27, 1847, and was the fourth in a direct line of physicians, his father and mother both practicing in an early day. His father at one time had a large herb garden, and his knowledge of herbs and their uses was marvelous and known far and near. As men of that day had more than one calling, he was also a cabinet maker, and his handiwork, much of which still is in existence, is artistic and beautifully made. In the remoter line these doctors are of a family which has achieved things professionally, for there stand out among them such men as John Marshall, the great Chief Justice, and Joel Barlow, poet and statesman.

Columbus was the youngest of fourteen children, there being three sets and three of his stepbrothers and sisters intermarrying. When 7 years old he was afflicted with white swelling which left him a cripple for life; during this illness his father died, leaving the request that this boy should have the medical education. As a child he was delicate and petted and spoiled by every one. He watched other children run and play almost enviously, always telling them that some time he would know enough to cure himself. Thus rose and grew his determination to study and know the human body. All through life this fact that he was a cripple was a drawback, but it seemed to strengthen his determination to accomplish great mental things.

During these long days of his childhood while he was confined to the house he cultivated a love for books and read everything that was obtainable, even to the medical journals which his mother took. When about 10 he bought the first book of his own—a copy of "Parley's Panorama," which he bought of an agent with money that had been given him. When able he attended the country school, going until he had completed its course. He was always on the hunt for new information and was inquisitive in the search to the distraction of every one that came to the house.

After his school days he worked in a wagon and carriage shop for six years, to raise money for his professional education, reading several hours a day, and for the last two years devoting eight hours a day to medical study—Dr. Samuel J. Griffith directing his studies—and eight hours to manual labor. He was now 24 years old, and in this year married Miss Marie Athey, who died three years later, as did their two children. When on her death bed she requested her husband, after she was gone, to marry Mrs. Sarah Smith Price, who was then a widow and was with her at the time of her death. This he did three years afterward, and it need not be said that a marriage was never more felicitous.

Dr. Barlow attended two courses of lectures at the Cincinnati College of Medicine and Surgery. He was compelled to economize while in school, having not more than one suit of clothes at a time and often doing his own cooking. He graduated June 27, 1877, and on July 4 following entered upon the practice of medicine at Eaton. This was a small town and his practice was that of the country doctor. His office was small and poorly equipped, all of the furniture being made by his own hands. He made his chairs, book case and operating table, which had all the movements of the more modern ones. The first box of drugs he received was emptied and nailed up again, using it for a stool; it was in almost constant use during his practice in Eaton, which continued until 1895. The box is still in existence, and carved upon its sides are the names of men who studied under him—a dozen names, all a credit to the profession. At one time his office was called the Medical College, and all these students became workers in medical societies and Christian members of some one or the other of the churches. All of his life he was helping boys to attain an education, both by encouragement and by furnishing means. His practice at Eaton was a strenuous and laborious one. He treated men, women and children for miles around, going through all weathers and at all hours. Often he visited a patient when he was the sicker of the two. He treated rich and poor alike and often left money instead of collecting it. Among his papers was found a slip with a number of Bible references written and at the top, "Bible authority for helping the poor." He believed in this and lived up to it. He was not only the people's doctor, but he helped them and sympathized with them in every way and was always using every effort to build up and better the little community in which he lived.

While yet a student in medicine, in 1873 he drew up a subscription paper for a church, "to be built by a society, to be known as the Union Church Society, to be owned and controlled by the society, and to be used by all religious denominations for lectures on scientific subjects, or anything else not of an immoral nature." The church was completed within three months and another built on the same plan in a neighboring town, and the constitution and by-laws written by the Doctor are still sufficient to settle all difficulties. An interesting paper was found in his possession, in which he gives the history of the Union Sunday School of Eaton. He organized it himself in an old log school house, and in this paper he tells how the boys would meet and play marbles or horse shoe until the crowd gathered. He goes on to tell that there were only two members of the whole Sunday school that could offer prayers, and if they were not there they did without. Its first superintendent was the village blacksmith, a man who was anything but a Christian and was elected as a joke, but who filled the office with credit and took quite an interest in the work. Dr. Barlow ends by telling the good they did and how many of them became Bible students.

In 1881 Dr. Barlow took a postgraduate course at Rush Medical College, Chicago; did some postgraduate work in 1893, and in 1894 took the general course at the Postgraduate Medical School, Chicago.

In 1895 he moved with his family to Robinson in order to get better school advantages for his children. Here he went into partnership with Dr. Firebaugh and remained with him for eight years. Soon after moving there he was made an elder in the Christian Church, and was always useful and active in every good work. He served as President of the School Board for some time, was a help in the temperance work, was Vice-president of the Anti-Tuberculosis League, and had all of his plans made to attend the meeting at Atlanta, but at the last minute gave it up and stayed at home to help vote out saloons. In one of his papers on the temperance cause he says: "Now, why intelligent men with a spark of humanity in them would publicly advocate the selling of deadly poison—it is a slow poison but a sure one and will do its work effectually in time—which they know will destroy those who use it both soul and body, is more than I can understand. It consumes their property, impoverishes their families, makes brutes of themselves, widows of their wives and orphans of their children. Alcohol makes a hell of what otherwise might be a paradise. It destroys family ties, renders hundreds of women and children homeless, and turns husbands and fathers into fiends."

Mrs. Firebaugh speaks of Dr. Barlow in her book, "The Physician's Wife," as "The Elder Doctor." "One day when the doctor of our household had brought down two physicians to dinner we had a little talk on the subject of surgery. I happened to remark to the Elder Physician that it was just about a year ago that the Doctor had taken me out to his village to spend the day with his good wife while he assisted the Elder Physician in amputating a leg—or the lower part of the leg. I use the term 'Elder Physician' simply to distinguish this doctor from the young doctor who accompanied him."

"Yes," said the Elder Physician, "and that woman gets around as well as she ever did, if not better."

"She wears an artificial limb, I suppose?"

"Yes; one that I made for her myself."

"You made it? I did not know a doctor could do such things. Why did not she get one ready made?"

"I wrote to a large firm in Chicago that manufactures artificial limbs, telling them that, because of the limb having lain for months in a flexed position on a pillow, it has become ankylosed" (dear unprofessional reader, if such there be, that only means that the knee joint had become stiff and refused to extend as it should) "and she also has bursitis from resting her knee on a chair and crawling round to do her work. They replied they would not undertake to fit an artificial limb to a stump of that kind unless the woman came up so that they might see it for themselves, and even then they could not guarantee entire satisfaction. Well, they were very poor people and it was simply out of the question for her to go to that expense. Then the limb would have cost at least seventy-five dollars and perhaps twice as much, so I just said to myself, if they can do that job, I can."

No one knowing the elder physician as I do would doubt for a moment that he could, and I listened in deep admiration to one whose skill

in making a patient whole again transcended anything that had ever fallen within my personal knowledge.

"I made a plaster cast of the leg, which was about this shape"—illustrating by a drawing. "Then, in order that the foot should accommodate itself to the flexed condition of the knee, I had it made so that the whole thing looks like this" (another drawing). "You see, the village blacksmith, the shoemaker and I put our heads together, and the result is an artificial limb."

"But where is the foot?" said I, looking at the drawing.

"I have not the foot made yet, but I am going to make it. She walks on a block now."

"Well, great are the resources of a country doctor," said I, laughing.

"The half has never been told about the country doctor yet," replied the Elder Physician, with a smile.

Dr. Barlow took an active interest in medical societies and instilled that interest in all of his students. These societies came next to his God and his family in his affections. He was known to be one of the best workers in them in his part of the state. He loved them not only for their scientific good, but for their social part, always advocating that the more physicians attended and the better acquainted they became with each other, learning each others character, the more ethical and the more brotherly feeling they would have for each other and the less petty jealousy. In an article on the importance of medical societies he says in part: "Through the influence of medical societies human existence has been prolonged, and the splendid homes all over the country maintained in their present sanitary condition. And, more than that, it cements the doctors together in one great fraternity, which is monumental of strength and efficiency when its forces are properly harmonized."

From 1883 to 1906 he missed but eight meetings of the Crawford County Medical Society (which meets bimonthly), and during his residence at Eaton he had to drive nine miles to attend them. In Dr. Birch's paper on "The Crawford County Medical Society in the Past" he says: "To return to this first meeting of the society, as I have said, no papers were read, but the interchange of ideas, professional and otherwise, the social intercourse indulged in—all created an enthusiasm which did much toward reviving the debilitated organization to a vigorous and active condition. I remember that Dr. Rafferty arose and said that, as Dr. Barlow was sponsor, or godfather, or something of that sort, it was in order that he (Dr. Barlow) make a speech, which he did, and it was at that time I was first impressed with the earnestness of soul and determination of purpose on the part of this gentleman to make the society well worthy of place on the roster of county societies throughout the state, and I remarked to myself that with even a few men among its members with such fixed ideas as Dr. Barlow advanced regarding the high moral tone, professional pride and following regular methods there could be no doubt of sustaining our society in future years within the bounds of efficiency expected of an organization of qualified medical gentlemen. I think there are men here to-day who have watched the

course of the society during the past two decades in following the lines laid down by Dr. Barlow and others that July afternoon who will say it was the most happy inspiration that brought out such ideas for fundamental principles and the founders builded even better than they knew."

Dr. Barlow was President of the Crawford County Medical Society in 1883, Secretary 1892-3, a member of the Æsculapian Society of the Wabash Valley, held the office of President of the Illinois Medical Society, being a member of the Board of Councilors, and of the American Medical Association; a Vice-president of the National Tuberculosis Commission; was an auxiliary committceman of the first Pan-American Medical Congress, and had been twice appointed United States Pension Examining Surgeon.

To medical literature he had contributed papers on "Brain Lesions," *Cincinnati Lancet-Clinic*, March 6, 1886. This paper was prompted by the killing of a man by a brother physician who was a victim of brain lesion. "Remote Effects of Sunstroke," June 6, 1891; "Physicians' Fees," *Medical Age*, Feb. 25, 1889; "Higher Medical Education," *Philadelphia Times and Register*, June 22, 1889; "Summer Diarrheas of Children," and a paper on anthrax read before the Æsculapian Society of the Wabash Valley, 1892-1893; "Rheumatic Spinal Affections," Transactions of the Illinois State Medical Society, 1894; "Rheumatic Anesthesia," *Cincinnati Lancet-Clinic*, Jan. 12, 1895; "Insanity Due to Bright's Disease," and others. In addition to these he published a book, "Day Dreams of a Doctor," which deserves more than a passing notice. It was reviewed by the press all over the country with much praise and he received many personal letters in regard to it from other authors and friends, among them Donald G. Mitchell, Dr. Matthews and one from Miss Marie C. Brehm. He told in a simple, honest way the story of an intelligent, thoughtful, dutiful, every-day doctor, portraying a physician's life and its influence upon himself and others. Later he wrote a paper on "Bacteria and Their Relations to Higher Forms of Life," read before the Æsculapian Society, October, 1897, published in the *Indiana Medical Journal*, December, 1897; paper on "Rheumatism," read before the Crawford County Medical Society, October, 1899; "The Prophylaxis of Typhoid Fever," read before the Æsculapian Society, May, 1901, and before the Crawford County Medical Society, June, 1905; "Historic Relations of Faith Cure," published in THE ILLINOIS MEDICAL JOURNAL, February, 1904; "Care of Typhoid Fever," read before the Crawford County Medical Society, November, 1902; "Suggestion as a Therapeutic Agent," published in *The Hypnotic Magazine*, May, 1897; "The Medico-legal Aspect of Bright's Disease," published in THE ILLINOIS MEDICAL JOURNAL, March, 1900; "The Passing of Alcohol in Practice," read before the Crawford County Medical Society, May, 1900; "The Psychosis in Bright's Disease," read before the State Medical Society, September, 1902; "The Medical Society," read before the County Society; "The Care of the Eyes During School Life," read before the Teachers' meeting; "Use of the Microscope by the Country Doctor," read before the

County Society; "Later Day Dreams," read before the County Society; "Personal Hygiene," read before the Æsculapian Society, and "Bacteria of the Farm," read at the Farmers' Institute. His paper on "Personal Hygiene" was the most elaborate and written more in detail than any of his other papers.

Dr. Barlow had been ailing for several years before his death, and it was only by constant pleading on the part of his family that he was persuaded to leave his practice and take a trip to Colorado. On the day they started he almost missed his train to visit some poor patients away off in the worst parts of town. He was always loyal to his profession, and his perseverance was remarkable. He attended medical meetings almost to the last and took part in them just as long as his strength would permit. He had an indomitable will, and it is to that will, perhaps, more than to anything else, that he owed his success. He was a deep thinker, a careful reasoner, and sound in his judgment, together with a pleasant disposition, which made him a factor long to be remembered.

Through all of his suffering he seldom grew discouraged and always talked about opening a new office. He took a course of treatment at Hot Springs a few weeks before his death, and not until that failed to help him did he begin to give up. He wanted to live for his family and his profession, but the thoughts of death were not even unpleasant to him. He had perfect faith and always said it was just a little change in his life—a little journey and then wait a while until he would see his friends again.

All through his sickness his stepson, Dr. Price, was a help and comfort to him. No men could have been more companionable or more willing to help each other.

The Doctor was confined to his bed only a little more than two weeks, during which time he seemed to suffer but little. He just slept his life away Oct. 8, 1907, peaceful and serene as his whole life had been.

ACUTE OTITIS MEDIA, "EARACHE;" A PLEA FOR ITS EARLIER RECOGNITION.*

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CHICAGO.

The subject which I have selected for this paper is a vital one—not simply to the patient, but to the physician himself. When we consider the appalling ignorance displayed by the majority of the laity—and, I regret to be obliged to add, to a certain proportion of the medical profession—with reference to what is slightly referred to as "earache;" when one considers how few are the cases that present themselves for treatment in the primary stage, that is to say, before suppuration commences, and especially when one considers the serious termination of a

* Read before the Southern Branch of the Chicago Medical Society, Dec. 19, 1907.

majority of such neglected cases, is it not surprising that more is not written on the subject? The more so when we take note of the excellent results obtained by the early recognition and proper treatment of this inflammatory condition. How few are there among us who have not at some time or another suffered from such an attack, and the children who are so prone to it, and the babies!

How frequently is the physician called—generally at night—to attend an infant frantic with pain and with high temperature. He promptly pronounces it gastro-enteritis, teething or something of that ilk, never casting a thought upon the ear, as that organ is the last to be suspected, remaining in utter ignorance until the next visit, when he finds the child quiet, the temperature possibly normal, but with a very unpleasant discharge from the ear; and while it is true this sero-mucous discharge may resolve itself in three or four days, nevertheless infection is liable to occur, and it becomes purulent. This need not necessarily follow, however, if a proper degree of cleanliness is observed.

The purpose of this paper is to endeavor to curtail the number of such cases by instructing and educating the people as to the proper care of the ear.

How can this best be accomplished? Does it not strike you that the family physician should be best qualified to impart this knowledge? Is it not by him the patient is first seen? Possibly while attending another member of the family he is informed that one of the children had a bad earache during the night—perhaps has it still. If he does not point out the serious results liable to accrue from such a condition, is he not to be condemned? Home treatment for these cases is responsible for a vast army of deaf people and usually consists in the administration of one remedy, "laudanum and sweet oil," which at best only prolongs the disorder and is of absolutely no use whatsoever. For a clearer demonstration of the destruction that may occur, a brief consideration of a few landmarks of the tympanic cavity may not be out of place. To my mind Oppenheimer's division of this region into three sections is the most practical—the superior, middle and inferior. Superiorly the upper portion of the attic is bounded below by the horizontal facial canal and the tendon of the tensor tympani muscle. This portion contains the head of the malleus and the body of the incus; consequently the superior tympanic space represents that portion of the cavity lying above a line drawn horizontally through the short process of the malleus.

The middle section is separated from the upper by the neck and body of the malleus and the external and anterior ligaments; also by folds of mucous membrane (and I desire to lay special stress upon these folds, because in a state of inflammation they may entirely shut off the upper section)—the inferior is the floor of the tympanum, with sulcus tympanicus, in close relation to the internal carotid artery, and jugular fossa. As a rule the membrana tympani is divided into the four well-marked segments, but Foucher has happily made an excellent subdivision. He draws an imaginary line which passes almost directly over the round window, which virtually places, as you will readily see, all

of the important structures above this line. The tegmen is just above the annulus or bony ring, and it should be remembered that the petroso-squamosal suture is not always closed. Thus it will be seen that the epitympanic space is the most important, not simply on account of its anatomical position, but because micro-organisms that attack this part are of greater vitality and the infection is much more virulent. This, I believe, is due to the complete occlusion caused by redundancies of mucous membrane mentioned above, which shuts off the air. We also often find the labyrinthine or inner wall extremely thin. How readily, therefore, may an inflammatory condition occur through the tegmen to the membranes of the brain, through the aditus and antrum to the mastoid cells, through the fenestræ to the vestibule, semicircular canals and cochlea, or through direct effect upon the blood vessels.

Politzer has shown us that perforations in Shrapnell's membrane are caused primarily by a general inflammation which subsequently becomes localized in the attic, which are responsible for adhesions of the membrana tympani and inner wall. If spontaneous perforation occurs and the case proceeds to suppuration, it is another disease and the curative treatment of that disease is in order. But, on the other hand, we have another serious aspect. That in which perforation does not occur, but in which serious changes take place within the tympanic cavity—through failure of complete resolution—resulting in several conditions. As we already know, there is an amount of débris—which deposits itself on the ossicles, muscles and ligaments—sometimes to the extent of ossification, and, in any event, producing ankylosis, while the mucous membrane may become chronically inflamed. Fluid may be stored in the tympanum, causing impaired hearing. When this fluid finally departs the change of tension produces tinnitus and the pressure from without easily depresses the relaxed membrane, producing impaired hearing. This relaxed condition may cause adhesions to the posterior wall, and, lastly, if the fluid is absorbed it may leave a chronic inflammation of a hypertrophie or proliferative type.

The etiological factors are manifold and include scarlet fever, diphtheria, bronchitis, whooping cough, cerebrospinal meningitis, measles, smallpox, influenza, pneumonia, tonsillitis or hypertrophied tonsils, adenoids, polypus, any hypertrophie or inflammatory or syphilitic condition of the nasal passages, post nares or pharynx. The introduction of fluids into the middle ear by means of the nasal douche or while bathing. Surf bathing, prolonged bathing or diving in still water, the pernicious habit of violently blowing the nose, exposure to wet and cold, traumatic rupture of the membrana tympani with infection, and occasionally following the use of the salicylates, quinin or any of the coal tar derivatives, which should always be given with extreme caution. From 80 to 90 per cent. of all ear inflammations emanate from the nasopharynx.

SYMPTOMS.

Pain in the ear or radiating around the ear and side of the head, most severe at night, with a sense of fullness. Very often there is tin-

nitus and autophony. In a child there is usually high temperature or the attack may be ushered in with convulsions and vomiting simulating meningitis. The hearing is usually impaired, but not in all cases during the painful stage, as I have found it sometimes markedly increased, even to a painful extent. This hyperesthesia, I believe, may be due to involvement of membranous labyrinth. Bone conduction upon the median line is referred to the affected side. If upon making pressure on the tragus the patient winces, or if relief is obtained by breathing in the ear or the pouring in of hot water, one may be reasonably sure of the diagnosis. On examination the tympanic membrane will be found hyperemic and often bulging with the landmarks generally distorted.

TREATMENT.

The first indications are naturally for the relief of pain and to endeavor to abort the attack. Absolute rest in bed, a saline, a hypodermic for an adult, an anodyne for a child, with aconite for fever. Dry heat in the form of a hot water bag or Japanese hand stove or bags of salt or bran applied over the ear. Many writers advocate the use of hot water or steam, but I believe moist heat is objectionable, for, as Dench succinctly says, "it favors venous congestion, softens the tissues and hastens local necrosis, rather aiding the development of the process we desire to abort." Where heat fails to subdue the pain, Bacon suggests the use of cups, wet or dry, or blisters, or the withdrawal of from two to four ounces of blood by means of the artificial leech from in front of the tragus. Four remedies are extensively used for instillation, morphin, cocain, atropin and a solution of carbolic acid in glycerin (1 to 20). The first three may be used either separately or combined in aqueous solution.

Oily solutions or cold applications should never be used in the auditory canal. A procedure which I have practiced in a number of cases with success, and which I have not seen advocated by any one, is gentle catheterization. It cures, I believe, by emptying and ventilating the tympanic cavity and by preventing total occlusion of the attic by folds of mucous membrane. If in a few hours, and a very few, you fail to abort the pain, freely incise the membrana tympani. In fact, if on examination you find a red bulging membrane or any indication of fluid in the tympanic cavity it is imperative to incise at once. There is danger in delay and no harm is done by this operation, for the membrane heals in from twenty-four to thirty-six hours and leaves no evidence of having been touched. By this I do not mean a paracentesis, a paracentesis is absolute, but a free incision where the bulging is most prominent (which is very often in Shrapnell's membrane), or, if no particular point presents itself, in the posterior inferior quadrant in a curved direction, downward and forward within the clear membrane—even to the extent of going through the membrane of the internal tympanic wall—of sufficient size to procure ample drainage, as you can do no harm in the lower segment.

A 10 per cent. solution of cocain, warmed, may be instilled into the canal, but, notwithstanding the assertion of many that it affords relief, I have not found it to do so. A whiff of chloroform for a child—or nitrous oxid for an adult is better, if, indeed, anything is needed, as the pain is momentary. The canal should first be rendered aseptic by irrigating with a warm solution of mercury bichlorid. The operation should be followed by frequent irrigations (every two to four hours, according to the severity of the symptoms and character of the discharge) of mild antiseptic solutions or plain sterilized warm water. For this purpose boric acid, potassium permanganate (1-3000), corrosive sublimate (1 to 8000), sodium chlorid (4 per cent.) may be used, but care must be taken, especially in children, to prevent poisonous solutions passing through the Eustachian tube and being swallowed. After drying the canal with absorbent cotton, boric acid in impalpable powder may be insufflated, but only in sufficient quantity to dust the parts, under no circumstances whatsoever should a large amount be introduced. It is liable to cause the formation of an impacted mass and occlude the canal interfering with free drainage. After a few days when the discharge is much lessened, the irrigations may be omitted, but the canal should be dried and insufflations of boric acid continued together with gentle catheterization to ventilate and remove the débris from the tympanic canal.

Blake advises in mild cases scarifications of the membrane. This procedure, to my mind, needs a very proficient hand. While I do not wish to be understood as stating that it is absolutely imperative to incise—as there are many cases in which heat, the application of leeches, etc., cure, and quickly—I do assert that if severe pain continues after a few hours of such procedures, or if the myringa is hyperemic and bulging or there is any indication of fluid within, incise immediately. If spontaneous perforation has already taken place, it may often be necessary to enlarge it, if small, to insure free drainage. The discharge is usually much freer in children than in adults, with high temperature for several days after drainage is freely established. A continued high temperature, however, is not a favorable sign. In all cases a bacteriologic examination should be made. In mild cases we have usually staphylococci present. In the severer cases—particularly in those with a rapid onset—the infection will be generally that of a streptococcus or diplococcus—in one of its various forms. The prognosis should be guarded if we have either of the latter, but if a staphylococcus it is favorable. The general health of the patient is often a great factor in these conditions and should be supported with the administration of iron, hypophosphites, etc.

In conclusion I desire to advocate the advisability of establishing school inspection for aural as well as ocular cases—to suggest that the otoscope and aural specula form a part of a physician's armamentarium, and, finally, to emphasize the urgent necessity of early attention to this class of cases.

100 State Street.

ACUTE BRONCHITIS AND SOME OF ITS PECULIAR PHASES.*

S. W. SCHNECK, M.D.,

MT. CARMEL, ILL.

I have chosen this common disease for discussion because of its practical importance, especially to us who live in this particular locality, with such an extremely low altitude, such great humidity and an ever-changing temperature with great variations. We have an almost continuous epidemic during the late winter and early spring—January, February, March—and often a case comes to us up into the summer months. However, we find that a few weeks of dry weather, either hot or cold, brings relief to the cases at hand and soon stops the supply of new cases. Although not particularly contagious, as usually considered, we find time after time that it goes through a family of children in much the same manner as la grippe or severe colds do, and especially where the sleeping apartment is crowded, or when children occupy the same bed. This is so common that we should isolate the case as much as possible.

ETIOLOGY.

That this disease is due to germ infection seems to be without question, but I have been unable to find any literature on the subject showing any research in this direction. In some cases I have attempted to study the particular specific cause, and in each microscopic examination of the sputum taken from these cases found a bacillus which, like the tubercle bacillus and smegma bacillus, did not destain with acid alcohol after a two-minute stain in warm carbol fuchsin. Just what this germ is will require much work and will probably be found to be one of the more than a hundred species isolated by Miller from the air passages. Another kindred species is the micrococcus lanceolatus isolated by Sternberg, and this may be an important factor.

SYMPTOMS.

One of the first symptoms is a slight coryza, but more often a peculiar feeling of dryness of tongue and throat, characterized by a very heavy rough white fur on tongue with intensely red tip and edges, slight fever, which reaches 102 and 103 degrees on about the third day. Often the initial symptom is croup, which recurs each evening for two or three days before any bronchial symptoms develop, thus showing the gradual extension of the infection in the mucous membranes of the respiratory tract. Nausea, constant and severe, is a marked symptom; often no food or medicine may be retained for three to five days. A dusky dry appearance of the skin is usually noticed, eyes seem glassy and have an unnatural expression, the lips are an unusual bright red. Secretion of the urine is very scanty and may have complete suppression for twenty-four or forty-eight hours. Urine has a dark or smoky appearance, high specific gravity and occasionally albumin. The bowels are always constipated, and sometimes even with the largest doses of physic

* Read at Annual Meeting of the Wabash County Practitioners' Medical Society 1907.

we are unable to obtain any action for forty-eight hours; even large doses of calomel have a very slow and unsatisfactory effect.

In children especially there is a most irritable condition of the nervous system, enough in some cases to suggest to one the possibility of meningitis. The cough, at first slight and hacking, becomes distressing, dry, brassy and almost incessant, the expectoration often not appearing for five or seven days. Respirations shallow and unusually rapid.

COURSE.

The course of the disease is very variable, and in mild cases lasts from five to ten days, in the graver ones fifteen to thirty days, or may become subacute and remain from mid-winter until warm weather. In only a small per cent., about 1 to 2 per 100 cases, does the disease invade the air cells and capillary tube and thus terminate in a broncho pneumonia. However, it is quite evident that not only the bronchial mucosa is involved, but often the mucosa of the whole respiratory tract is affected.

PHYSICAL SIGNS.

Very frequently no physical signs are present during the first four days of this disease, and here is often a common obstacle in the way of diagnosis, but if one has a clear view of the early symptoms in mind there is not much difficulty. Inspection reveals the rapidity and rather shallow character of the respirations. Palpation in the later stages shows the presence of mucus râles. Percussion may elicit slight increase of resonance. The fine sibilant and sonorous râles are best heard between and under the scapulæ. However, as the disease progresses loud mucous râles may be heard all over the surface of the lungs.

In this disease we are never able to predict just when, if at all, the air cells may be invaded, but this is more apt to be the case if the disease is preceded by one of the infectious diseases. The very old and very young suffer more severe attacks than those in youth and young adult periods of life. The inability of very young children to expectorate the mucus is an important feature and a great deal is aspirated back into the smaller bronchi. Some cases are followed by a chronic bronchitis or more often a subacute form which lasts from mid-winter until the appearance of warm weather. Often an attack is followed by relapses and subsequent attacks, especially in young children.

TREATMENT.

For convenience, we will divide the treatment into five heads—Prophylaxis, General Measures, Climate, Medicinal and After-Treatment.

Prophylaxis.—Clothe the feet warmly and keep them dry. Keep children off cold floors. Do not remain in a draft with thin clothing. Avoid extreme exertion causing rapid inhalation of dusty or cold air. Ventilate houses and schools and especially sleeping rooms. Thin wool or flannellette night clothes, with removal of all underwear worn during the day. No feather beds. Use wool blankets rather than cotton comforts.

In using warm cleansing baths always take them before retiring, followed by a cold splash or plunge. Treat the ordinary winter cough. Feed strumous children on cod-liver oil.

General Measures.—As soon as a diagnosis is made it is the duty of the physician to see that a properly made cotton jacket is applied, with gauze lining and a cover of oil silk or oil muslin, or some of the paste made of Fuller's earth and glycerin may be tried. Steam the room with turpentine in the boiler. In some of the dry cases a tent may be made over the patient's bed and the patient steamed with lime water or vinegar to hasten expectoration.

That climate has a considerable influence on these cases is shown by some patients who have while in this locality a great increase in an ordinarily mild bronchitis. The dryness of the atmosphere seems to have much more effect on the temperature, and it is on this point that we should make our decision in selecting a climate to send our patients to. Southwestern Texas meets all the requirements and in and about San Antonio we often get most gratifying results.

Medicinal Treatment.—(a) Expectorants: Brown mixture, ammonium chlorid, turpentine emulsion, guaiacol carbonate, creosote carbonate or spirits of aromatic ammonia may be used. (b) Stimulants and tonics: Spirits ammonia aromatic, whiskey, strychnin, spirits etheris compound. (c) Eliminative: Calomel at onset and repeated at intervals of two days during the course of the disease. (d) Sedative: Dovers' powder to check cough and produce sufficient rest; phenacetin to reduce temperature and discomfort; aconite is very valuable in early stages. (e) Alterative: The calomel usually meets all indications except in chronic cases, when the iodids are perhaps more valuable.

After-Treatment.—After-treatment is often neglected and our patient left a favorable victim for tuberculosis or recurrent bronchitis. Cod-liver oil and hypophosphites in those who are emaciated can not be over-estimated, and in most cases we should at least put the patient on one of the ferruginous preparations or we may use syrup hypophosphites comp. Continue to wear the cotton jacket till all symptoms have disappeared.

I wish to cite three cases of rather a peculiar type which came under my notice:

CASE 1.—Male, 39 years old, driver, previous sickness and family history negative. Took an ordinary cold, followed by a slight fever, which at the end of the third day reached 104 degrees and remained between 103 and 104 degrees for about ten days. Cough excessive, expectoration muco-pus and very free. Microscopic examination showed a bacillus which did not destain with acid alcohol after carbo-fuchsin stain. No areas of consolidation; at times there would be areas in the lungs which would be almost free from râles, and in one or two days the disease would shift from that part to another and it would clear up, only to be invaded again later. This kept on for about two weeks. In the treatment of this case all the above-mentioned expectorants and others were used without effect, and the best results were noticed after large doses of calomel, later potassium iodid, strychnia being used in full doses from the beginning of the disease. Cod-liver oil seemed to aid during convalescence.

CASE 2.—Female, aged 17. Healthy from childhood; no tuberculosis in family history. Case started as an ordinary catarrhal bronchitis, but rapidly assumed a grave type, temperature going to 105, and remaining about 104 after the fifth day of her illness, which terminated in death, due to asphyxia on the seventeenth day. This case resembled Case 1, only the inability to expectorate the tough muco-pus. There were never any subcrepitant râles to indicate invasion of air cells. Percussion negative. Again in this case were found the same or similar bacilli as in Case 1, which did not destain in acid alcohol. Treatment seemed to make no impression on this case at all or at any time during disease.

CASE 3.—Male, 25; salesman; family history negative. Had several slight attacks of bronchitis and always subject to taking colds with a cough. Developed a mild catarrhal disturbance in nose, throat, and larynx, which spread in four or five days; larger bronchial tubes were invaded and in turn the smaller ones also. On the eighth day after bronchitis developed, a few patches of exudate developed on inside of lips and cheeks. This pseudo-membrane rapidly spread over all of the mouth, throat and tongue. On the expiration of forty-eight hours the nasal membranes became involved, so were the bronchial membranes, as evidenced by the expectoration of casts of bronchi. Soon the conjunctiva showed the same pseudo-membrane, and lastly the glans penis and as far in the urethra as three-fourths of an inch. Temperature ascended to 106 and remained so for thirty-six hours in spite of cold pack and frequent sponging in iced water. Patient refused nourishment for five or six days, and took very little medicine. Dyspnea and general cyanosis intense. Best results from large doses of calomel. Strychnin was given constantly. Creosote carbonate was used during most of the time. Patient made an uneventful recovery in eight weeks. This is the first case I have ever heard of in which all the membranes were involved.

Osler mentions some cases of fibrinous bronchitis, in which patches appeared on the tonsils. Weil reports twenty cases of acute fibrinous bronchitis, but I know of no mention being made by him of any membranes being involved except the bronchial membranes. N. S. Davis reports two fatal cases of fibrinous bronchitis.

THE DUTY OF THE CITY TOWARD INSANITARY MUNICIPAL PLAGUE SPOTS.*

ALEXANDER H. REVELL.
CHICAGO.

Let me confess that I have been dreaming a little bit about Chicago—not, I hope, dreaming in idle vagaries but in plans which I hope will bear the sunlight of practical common sense. Almost every man, no matter how unsentimental his temperament, cherishes a fondness for the place where his childhood was spent. Every association of my boyhood is connected with what is now the very business heart of Chicago; two or three of the busiest and most crowded downtown streets of the Chicago of to-day constituted my playground. So in dreaming and planning of certain things which I believe will be greatly for the betterment of this city I am only obeying a common, human impulse, a sentiment as universal as the races—the desire to do something for the particular place and locality about which centers all my boyish associations. This is the only excuse for the plan which I offer—and I need no other.

* Address delivered at the Irish Fellowship Club, Chicago, Dec. 21, 1907.

Perhaps the greatest trouble with all plans for the social betterment of the poor in great cities is that they are based upon guesswork instead of upon demonstrated facts. Of course the noble work done by Hull House and the other social settlements which have been largely formed upon that model has brought to us a considerable mass of information, of well established facts, so analyzed and arranged as to be of practical service in working out some of these pressing problems of social betterment. But the fact remains that there are certain problems which belong to the city itself as a municipality; these problems are distinctly within the province of the city and do not rightly or naturally lend themselves to solution by private or individual agency. And it is my conviction that the only way in which Chicago will be able to solve these problems is by beginning gradually and making the experiments which will develop the facts, by which larger action may be governed and guided.

What manufacturer would presume to launch into the making of some chemical product without a long series of laboratory tests and experiments as a basis of procedure? Such a course would be an open confession of incompetency. Now, what I am about to urge amounts to the establishment by the city of a laboratory which will, on a small scale at first, give us the essential facts and elements necessary for an intelligent campaign for the betterment of the condition of the poor in the crowded tenement districts, not a sudden spurt of philanthropic enthusiasm, but a solid and progressive movement which builds for long results for all time to come. Such a movement must have demonstrated facts, comparative showings, analyzed results from under its feet, or it can never make sound progress.

It is worse than useless to go to municipal authorities and ask them to back a big city enterprise or movement without there have been investigations first which have brought to life a clear knowledge of the conditions. In the matter I am to present to you to-day I have been somewhat of an observer of conditions myself. But far better, I offer you the observations of Commissioner of Health Dr. William A. Evans, than whom Chicago has not had a better health official in many years. I have taken some excerpts from an address delivered by Dr. Evans several weeks ago, together with comments thereon by a Chicago morning paper. These have been submitted to Dr. Evans, who replies that the statements attributed to him are correct and also the comments by the newspaper. Here are the statements sent to Dr. Evans:

"War upon tuberculosis by Health Commissioner William A. Evans, who wants to clean the tenements to prevent a spread of the scourge. When the Council Finance Committee makes its next yearly appropriation it will be asked to provide for at least ten additional inspectors for the department of health. These men Dr. Evans wishes to send through the tenements of the city from the Ghetto to South Chicago to prevent the sanitary abuses said to have become customary in such places. The health department divides the city of Chicago into fifteen sanitary districts, the idea being that a sanitary district should be composed of territory in which the living conditions are fairly uniform. Five of these

sanitary districts are relatively bad and ten are good. The very undesirable parts of Chicago, from a sanitary standpoint, are found in these five districts.

"What Dr. Evans particularly desires is a city law moulded after the Philadelphia idea. The eastern city allows its health department to abate any nuisance at the expense of the owner of the premises if he or she refuses to do so in two weeks after notification. In Chicago the health department must sue, the offending owner is fined, and then perhaps fined the second and third time, with the net result of nothing in the way of improvement.

"One string of dilapidated frame structures which the commissioner believes ought to be wiped out instantly is at the stub ends of May and Carpenter streets. They also front on a mud road containing a railroad siding, which the children of the neighborhood call Canal street, and they abut on the north side of the Chicago & Northwestern Railroad. This is part of the fifth sanitary district, which, during the epidemic of 1906, sent 900 babies to the graveyards. It is a settlement that abounds with children, who freely state, 'There is lots of sickness and lots of doctors come around.' In some respects this particular district is worse than the West Side Ghetto. Occupants of the houses own them, but they pay ground rent, some as low as \$20 a year, to the estate of the owners.

"The houses range from ten feet wide and one story high to thirty feet and three stories in height. Many are one and one-half stories. They average about three persons to a living room, and the description of one on Carpenter street may be made to fit all. In the dirty front basement, which is really a cellar, was a filthy bed with rags for a covering and a torn straw mattress. At the foot stood a pail, the inside of which was stained with the foam of stale beer. Then there was a pick and shovel, a washboiler, the newness of which indicated little service; several geese and chickens, a dog and three unkempt children. On the outside, in the chill air, stood a girl of 13 in her bare feet. The only blade of grass seen was in the mouth of a horse attached to a lumber wagon from an adjacent yard. Lumber and coal yards, tanneries and the railroad tracks formed the 'scenery.' The windows were covered with mud. There seemed to be more doors than anything else. Each door leads to a special apartment, and then there are rooms that are reached through a common door. There can be no mistake about the houses being so arranged as to accommodate the greatest number possible.

"Other undesirable places are: Between Halsted street and Center avenue and Forty-seventh and Forty-ninth streets; north of North avenue, between Ashland avenue and the river; between Thirteenth and Eighteenth streets, east and west, principally west of Halsted street; between Eighty-second and Ninety-second streets in the vicinity of Commercial avenue, where the 'relay bed system' is the worst."

This completes the statements, which, as I said before, are endorsed as correct by Dr. Evans.

The people of Chicago are expending vast sums and giving much

attention to those who are afflicted and in need. We have great public institutions, hospitals and charities, which, at great expense to the taxpayers, care for all or nearly all who seek them, and do so without charge. We have innumerable relief and aid societies which help the ill and indigent in their homes. The county government expends large sums in outdoor relief. There are many hospitals, in all of which there is set apart space for those who can not afford to pay. The churches, true to their pledges, help to care for those who need and deserve help. And, lastly, we have the splendid Salvation Army with its pleading tambourine. Through all of these varied agencies of charity much good is being done. Then add to all this the money expended by the people for police, fire and health protection, for justice and criminal courts, etc., and remember that a large percentage of this is paid out at the wrong time.

After all, we have not reached the cause, we have not found the anti-toxin for the great black plague of poverty. Our methods do not seek to prevent or even cure it, but merely to alleviate it. Much as we spend in Chicago for the purpose of charity, it is insignificant when compared with what is spent in England. Recent figures show that in England and Wales the poor relief expenditures by the government are equal to \$2.00 per capita on the entire population. At this rate Cook County would spend about five times as much as it now spends on account of poor relief. It would spend nearly twice as much as the present entire county tax for all purposes, half as much as our public schools cost. The awful growth of pauperism in England is ascribed to unwise methods in dealing with it.

In a recent speech by an anti-sweat meeting in London George Bernard Shaw, the famous playwright, said that \$500,000,000 a year is being wasted in so-called charities and poor reliefs which do not correct or cure existing conditions. While I do not agree with Mr. Shaw that the money expended is wasted, I am convinced that new methods, designed to anticipate the trouble and deal with the causes of poverty and sickness, and not with their effects, are what is needed. I am firmly convinced that, to a great extent, poverty is due to ill health with the natural indisposition which accompanies it. Sickness, lassitude, idleness and poverty go hand in hand.

It is true that vice and crime must not be lost sight of, but, after all, it is not true that ill health and consequent idleness and poverty are potential factors in producing the degenerate and born criminal. What can be expected of a child born and raised in an unhealthy, depressing, unwholesome and forbidding environment?

Recently some poor but offending philosopher was before a Chicago municipal judge. He expressed his conviction that modern conditions were responsible for most of the wrong doings of the poor people, and one of the several bits of philosophy which he evolved was: "If one of our bank presidents, with his wife and children, had to live in O'Brien street, how long would he keep sober, and how long would his wife preserve her theories of life? I know," he said, "that you can't cure a condi-

tion by getting drunk, but sometimes a man's thoughts hark back to the green fields and golden sunsets of his youth and he has to shut his eyes to blot out the present reality."

Can cheerful, manly, courageous beings be developed in unhealthy surroundings? Can anything be more depressing than the helpless consciousness of the man or woman that the limits of the jungle district of a great city describe the metes and the bounds of his or her possibilities in life? "What's the use?" comes as a mocking answer to every endeavor, to every promise to break away from the intolerable slavery of unclean and evil things. The worst of it all is in the fact that in some environment not only breaks down the body but depraves the mind. Pessimism takes the place of optimism and the world takes on the hateful aspect of social discontent.

Much attention and study has been given to the subject of the inducing causes of poverty. A few years ago, before the problem was thoroughly gone into, poverty was ascribed for the most part to such causes as drink, laziness, extravagance and incapability. The investigation of more recent years have tended to change the views of students of sociology; instead of looking at immediate causes, they sought for and discovered the causes which lie beyond them. A prominent writer on this phase of the matter says: "It is possible that in the analysis of the causes of poverty emphasis has been placed unduly on personal causes such as intemperance, shiftlessness and inefficiency, as compared with causes that lie in the environment, such as disease resulting from insanitary surroundings and the growing inefficiency of the bread winner due to undermined vitality." Economists have duly recognized the effect of climate upon national efficiency, but climate in the sense which it affects earning capacity is not simply a question of lassitude. It includes rather all these elements of the immediate difficult environment which gives vigor, elasticity, buoyancy and recuperative power. It does its work at night when the worker is asleep, quite as much as when he is employed.

Society—and by society I mean the organized element—has a well-defined and far-reaching obligation to perform. Government undertakes to protect life and property. It establishes laws and enforces them. It backs and endeavors to sustain the economic system. In fact, the state as organized is itself an economic system. In making rules for the majority it too often forgets the minority. It has been said—and well and wisely said—that there is no tyranny as heartless and so absolute as the tyranny of the majority. In other words, half the world does not know how the other half lives. But there is a growing consciousness, if not conscience, concerning humanity among the majority. This feeling is broader than sympathy. It is wisdom and justice. It seeks to put the objects above the need of sympathy.

Now bring the matter straight home to Chicago. Consider the conditions which exist here. The density of population in one portion of this city is three times that of the most crowded areas of Tokio or Calcutta. It is true Chicago's poor quarters are not so crowded as those of New York. But in making such comparison other New York

conditions are less objectionable than those of Chicago. The buildings are better, the removal of garbage is accomplished much more effectively, the drainage and other conditions are superior and the streets are paved and kept clean. It must also be considered that overcrowding is not a matter of population to the acre of ground. In some of our large, tall and fine apartment buildings and residential hotels the population, measured by ground area, is large, but the occupants of such buildings are not crowded together in small rooms.

The buildings in the tenement quarters of Chicago, unlike those of other large cities, are, as a rule, former family residences and have been readapted to the use of several families. In most cases the buildings of one sort and another have been erected on the rear end of the lot until, in the crowded portions of the city, more than three-fourths of the lot's surface is covered. Nearly all such buildings are of wood. Carefully prepared statistics show that about one-third of the front buildings are of two or more stories, while those on the rear portions of the lot are generally of one story. These areas, hundreds of blocks of them, are crowded with people living on the average of nearly two persons in every room. The space for each person in these crowded quarters averages about four by eight feet, or thirty-two square feet to a person. In this close contact all the acts of nature are performed. Children are born, the sick lie, waste away and die. Cooking is carried on, washing and bathing—if done at all—is done here.

The worst features of these crowded quarters is their primary unfitness for habitation. Our county jail allows small space for each person, but the jail is clean and well ventilated and lighted. No modern prison or public institution of any sort would be permitted to house its population in the narrow spaces that are allotted to humanity in the crowded portions of Chicago. These economic prisons for the poor are, for the most part, totally without light and ventilation, at least such light and ventilation as exists is rather the result of accident than of design. Debauched by their own uncomfortable environments, the people in these congested quarters of poverty become unspeakably dirty. Then the streets and alleys about them are filthy and unsprinkled. The garbage boxes, overflowing with fermenting waste, poisons the air which enters from without and carries with it baneful effects of its own. No person who is compelled to live in such an environment can be healthy in mind or body. It is true that many survive such conditions, but they survive in spite of them and do not reach the full stature of manhood or womanhood which they would have obtained if they had been brought up in decent surroundings. It is easy to see how, under the conditions which I have portrayed, diseases and mental depravity are fostered.

One of the greatest indictments against our social system is the manner in which it deals—or neglects to deal—with disease, especially contagious diseases. Consider tuberculosis in the United States; in all the hospitals 8,000 beds are provided for consumptives—4,500 of them free beds. This provision will not accommodate one-hundredth part of those who require treatment for consumption. In the United States are thirty-two special dispensaries, at which 9,000 patients are treated every year.

The lack of beds in hospitals compels those who are afflicted and in need of treatment and care to wait, wait, wait until some patient dies and makes place for another. But with all the waiting, the vast majority of persons afflicted with tuberculosis are without care. The hundreds of thousands of consumptives who find no competent care and treatment live in contact with their fellows, marry and intermarry, and so scatter the great white plague broadcast. Dr. Theodore B. Sachs recently found fifty-six cases of tuberculosis in one river ward.

Humanity will not outgrow this condition. As life becomes more complex and the conditions of living require closer and more continuous contact of individuals, as operations become more exacting and less hopeful, men and women will become less and less resistant to the disease and an easier prey to consumption. Investigation of cases of consumption which are treated and cured discloses that the individuals afflicted have come out of environments which are essentially conducive to the disease, hotbeds for tuberculosis, easily detected and well understood. Unlike smallpox and scarlet fever, the consumptive patient is not immune to further attack. So when, after much expense and suffering, he is cured he is generally compelled to return to the conditions which in the first place brought him under this disease.

What to do with cured consumptives is one of the gravest problems in caring for them. As consumptives are dealt with, there is literally no economic gain in curing them and sending them back into unwholesome living conditions merely to again acquire the disease, to again become a public burden and to perhaps be cured again, and return again, a constant public burden. In my opinion, the stamping out of tuberculosis is not a medical question at all. It is an economic question—a question of government and law, of making hygienic living possible. The problem is not how to cure those who have acquired the disease and seek to get rid of it, but how to prevent the acquirement.

Fifteen years ago Chicago had perhaps the highest typhoid death rate of any large city in the world. What did we do? Did we build hospitals for curing typhoid, and then more hospitals, and more hospitals, as we are now doing for the care of consumptives? No. We set about obtaining a water supply that would be uncontaminated with typhoid germs. Our drainage system, incomplete as it is, has done much, and our typhoid death rate has approached the vanishing point. Yellow fever has been practically exterminated at Havana. How? Not by building hospitals to cure those who are stricken, but to *remove the causes* of yellow fever. Smallpox, anticipated by vaccination, has been almost entirely eliminated from the list of plagues.

In dealing with those diseases which are engendered by bad living conditions we should consider it our fortunate privilege, as well as our duty, to undertake to provide against them by improving the physical character of our surroundings. Albert Shaw, in his works, "Municipal Government in Great Britain," says: "The abolition of the slums and the destruction of their virus are as feasible as the drainage of the swamp and the total destruction of its 'miasmas'." There is no doubt about what we should do. There is no uncertainty about the possibilities

of what may be done. The only question is, *how* shall we set about improving the conditions in which the great mass of humanity in this great city are compelled to live?

In 1862 George Peabody, the American philanthropist, placed in the hands of trustees, in the city of London, \$750,000 for the building of model tenement houses for the poor, to be let to them at moderate rent. This plan proved so successful and the houses were so well patronized that he later increased the fund to \$2,500,000, it being known as the "Peabody fund." Since that time London has made great advancement in the direction of properly housing its poor. Power has been given to the London authorities to condemn and tear down unfit tenements. In their places have been erected tenements of the highest possible scientific adaptation for the purposes to which they are to be put. In addition, an effort has been made to secure rapid transit between the city and the suburbs where there is room for the poor to live. Long before London started the movement Paris began a careful supervision of dwelling houses, and from 1872 to 1892 the authorities of that city brought about the *improvement or demolition of 15,000 houses in which were housed a half million people.*

Much care is given the matter of housing the poor in Berlin. Burton Holmes tells us, and he is right, that the German metropolis, Berlin, has solved the street problem. Thoroughfares in the poorer districts are kept as scrupulously clean and are repaired as carefully as the show streets through which the kaiser rides in state. *There are no slums in Berlin.* Berlin's by-ways and out-of-the-way places surprise a visitor by reason of their freedom of the unsightly garbage box, the tin cans and the wandering goat, which we have come to regard as necessary adjuncts of a great city's poor quarters.

New York is moving in the same wholesome direction. Chicago stands still. Perhaps not still, for now, more than ever before, attention is being given to the erection and changes of dwelling houses and generally to the condition in which the poor are compelled to live. However, not much attention is given to overcrowding. Really good houses may be overcrowded. In European cities the landlords and lessees are kept under official espionage so that they can not overcrowd buildings. I do not understand that there is any limit to the police powers of the state in matters where public health is involved and, therefore, any law or regulation which can be shown to be a reasonably necessary health regulation can be enacted and enforced. The property rights of greedy and inconsiderate landlords can not prevail against public health requirements.

What are we going to do about it? While I have no hard and fast plan to propose, I am not unprepared to suggest a line of action. The city should begin by assuming a direct supervision over, say at least one block or, for the present, not more than four blocks in one portion. The very worst area should be at first chosen. There is obvious reason for this. Such areas demand the earliest attention. The legal justification for taking hold of the worst places would be much greater than where conditions are more easily to be defended. The housing structures in

such blocks should each and all be investigated and passed upon by competent persons, with such a man as Dr. Evans or some equally well-informed and interested professional man to lead, with a view of determining whether they be retained for use as dwellings or not. Those found to be unfit should be destroyed, and the question of structural fitness should not be the only consideration. It is accepted that human habitations, such as would have to be dealt with in the proceeding which I suggest, should not cover more than a certain proportion of the ground upon which they are placed. All structures in excess of the proportion, beginning with the least fit, should be demolished.

The next step should be to see to it that the buildings permitted to stand are put in proper condition. Every feature of their construction should be considered. The plumbing and all lavatory arrangements should be made sanitary and sufficient. The windows should be arranged so that they could be easily raised or lowered. Calcimining and general renovation should be required. The yards should be kept clean and provision made for the disposal of all waste. The use of space next to the ground in buildings which are placed on posts should not be allowed. Space under sidewalk and stairways should be clean and kept clean. The city should see to it that the garbage is not allowed to accumulate, but removed promptly every day. The streets and alleys should be kept clean and, when necessary, sprinkled. This would establish something like sanitary conditions. Then this block, or group of blocks, should be especially well lighted.

Understand me that I would make an exception of all selected areas and see to it that the service be carried out with respect to them without regard to whether the same sort of service could be rendered in adjacent blocks or in the remainder of the city or not. The purpose of making such areas an exception would be for the trying out of a great social experiment. When the physical conditions were properly regulated and established, the health authorities, who have, and should have, unhampered authority, would designate the number of people who might live in each set of apartments under proper health laws and see to it that the limit is not exceeded. Examination of beds, bedding and all domestic equipment of that kind should be made from time to time and care taken that no insanitary house or household should be allowed to defeat the ultimate success of the entire undertaking. Along with this, perhaps a part of it, though not an absolute essential to its establishment, should be the paving of the streets and planting of trees.

In selecting blocks or areas for this sort of renovation, I would, as already said, take the worst that could possibly be found. Then a complete census should be taken covering every possible feature of interest for a period of years. The persons should be medically examined, especially for tuberculosis. Idleness and drunkenness should be observed and reported. Then, after the renovation had taken place, the same statistic report should be made at regular intervals for the purpose of determining the improvements which may have been induced by the change in environment. At the same time, comparative statistics should

be kept in contiguous blocks which have not received the same attention, if they be similar in character of houses and occupants. And not only should statistics in relation to health be obtained, but those concerning crimes, murders, acts of violence, fires, wife desertion, drunkenness, willful or enforced idleness and all matters vital to moral, physical and economic conditions should be recorded. From time to time a comparison of results should be made and the beneficent effects of the experiment be brought out.

The trial of such an experiment for, say, five years would, in my opinion, show results which would be immensely gratifying, especially so because it might determine that, in addition to the healthful, wholesome features, we might find that many millions of dollars spent for police, for jails, for halls of justice, for fire departments, hospitals, poor-houses, insane asylums and many other institutions of government, for the care of delinquents, to say nothing of the millions disposed in charity, could be saved and a portion thereof spent for *prevention* rather than so much wasted on the cure. It requires, it seems to me, but ordinary common sense to realize that untold millions of the people's money is now expended at the wrong end.

I would like to see the city do it rather than have the work taken up, as many other works are undertaken, by private individuals or clubs. It would show that the municipality is marking out a path of its own in helping to solve the great problem of life, poverty, health and contentment.

If the city will not do it, then perhaps others may.

Gradually, without a shock to any one concerned, after results have been established, the system could be extended and the whole substratum of urban society lifted out of the degradation, the helplessness, the discontent and misery into which it has fallen. This duty devolves upon us. While to do this would be the best thing economically, sordidness should not alone be the incentive. It should be done because it is right and because you and I are our brother's keepers.

THERAPEUTICS OF INFLUENZA.*

JAMES C. GILL, M.D.

CHICAGO.

Statements have gone out from some medical men that no treatment is necessary or is of any special value. Such expressions are wrong and productive of a great deal of harm. As yet medical science has discovered no specific for the cure of this disorder, as well as in many other diseases, but it is our duty as physicians to alleviate suffering and cure if possible. We should not adopt or recommend therapeutic Nihilism nor overdrug our patients. There is no disease or disorder so serious that can not be alleviated by some form of treatment and no disease so slight that should be considered too trifling to receive our attention. In

* Read before West Side Branch of Chicago Medical Society, Jan. 16, 1908.

a short discussion of the treatment of influenza it is impossible to give more than a general outline and omit a consideration of the many complications and sequelæ.

Prophylaxis is all important in this connection. Our patients should be instructed to avoid as far as possible crowded and poorly ventilated rooms, street cars, all public conveyances and gatherings. Their sleeping rooms should be well ventilated and their general health maintained at the highest standard possible. Influenza is easily engrafted upon slight colds, bronchial irritations, etc., and these slight ailments should receive proper attention in order to avoid a more serious condition that may follow.

In the care of one suffering from influenza we should endeavor to place the patient in a large well-ventilated room in which sunlight can be admitted if possible. A good nurse will greatly add to the comfort of the patient and lessen the anxiety of the physician. I should begin the treatment by the administration of calomel followed by a saline, to thoroughly evacuate the bowels and deplete the portal system. A warm bath to act as a diaphoretic and small quantities of cold water by mouth frequently given to relieve thirst and produce diuresis. Pain, which is frequently severe in the beginning and is manifested by headache and a general aching throughout the body, can best be relieved by the cold tar products. Phenacetin, acetanilid or antipyrin, combined with quinin or aspirin which has some physiological action as an eliminant, and small doses of caffeine to prevent possible depressing effects of the analgesics, will usually be sufficient to relieve the more distressing symptoms in the beginning.

Temperature which varies from a slight increase above normal to 105 and 106 in severe cases is best combated by hydrotherapy. It will be contended by some that a high temperature in an acute illness of short duration need not receive special consideration, but the fact remains that with the reduction of the temperature the patient feels much relieved, obtains better rest and sleep, and complications are less likely to follow. The methods of using water for this purpose will vary with the individual case and the surroundings of the patient. The tub bath is excellent in some cases, but can not be given in many homes. The wet pack in the hands of a competent nurse can be given in any home and is a ready and easy method to relieve temperature, while sponging can be utilized in many cases where no trained nurse is in attendance. Not only does hydrotherapy reduce temperature, but relieves nervousness and restlessness and increases elimination by stimulation of the peripheral circulation and lymphatics.

Sleeplessness—a distressing symptom in the great majority of cases—may often be overcome by a warm sponge bath at night, especially warm applications to the spine. A glass of hot malted or plain milk is sometimes quieting. When these measures fail, resort must be had to hypnotic drugs. The drug selected will depend upon the individual case, the severity, the complications, idiosyncrasies, etc. Usually trional, veronal, chloralamid or sulphonal will produce the desired results and should be

continued as long as seems necessary. Any apparent ill effects from the use of hypnotics is far overbalanced by the rest obtained.

Cough due to bronchial irritation is usually present in whatever form the disease presents itself and often is a great source of annoyance, preventing the patient from obtaining sufficient sleep and rest. Small doses of codein will control this better than other sedatives and rarely produces any disagreeable effects. As the disease progresses, marked prostration manifests itself. Supporting measures are then indicated. The use of strychnia, caffen and in some cases alcohol will meet the requirements.

Diet.—In the beginning frequently all food or nourishment is repugnant to the patient and should be given with care lest the inability of the patient to digest or assimilate the food further aggravate the distressing symptoms of headache, nausea, vomiting and perverted secretions. It is well to give frequent sips of cold water or acidulated water, malted milk, kumyss, matzoon, milk and lime water, properly prepared broths, in small quantities as the condition of each individual case requires. Later in the disease with the decline of fever, and the development of prostration, more nourishment will be necessary. Egg-nogs, somatose, scraped beef and milk toast may be judiciously given.

Convalescence.—There is perhaps no other acute infectious disease, not excepting typhoid fever, in which convalescence is so prolonged and discouraging to the patient as in influenza. Marked mental depression, sleeplessness and bodily fatigue persist for weeks and in some cases months, and will require greater skill and tact on the part of the physician to handle than the treatment of the disease itself. Tonics will be indicated, such as iron, arsenic, nux vomica and quinin, with mineral acids. An abundance of nutritious and easily digested and assimilable foods. Exercise carefully regulated to avoid increasing bodily fatigue. Massage and electricity will be of benefit in most cases, especially those not strong enough to take some active exercise. A proper amount of sleep must be obtained by the methods already suggested. For the mental depression it may be necessary to advise a change of scene and climate, or some light occupation by which the patient's mind is diverted from himself, will often hasten the recovery.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY.

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APRIL, 1908.

THE FUTURE OF THE DISTRICT MEDICAL SOCIETIES.

For many years societies embracing from a half-dozen to twenty counties, known as district or valley medical societies, have existed in the State of Illinois. At least one of them had its origin prior to the organization of the state medical society, and for many years these societies were numerous and accomplished a great deal of good. The members have become attached to these old organizations and are, very properly, quite unwilling to have them wiped out of existence or to see their influence waning. The organization of the profession by counties, under the new plan, bringing the society to the door of a great many men, has often had a disastrous effect on these district societies, and in order to save them from utter extinction it appears necessary to study the matter and make some changes agreeable to present conditions. Fortunately the way seems open for this project, and the only thing necessary is concerted action on the part of all concerned, a willingness to abandon non-essentials and agree on essentials, to give these organizations new life and make them powerful adjuncts to the county and state society. We had thought on this subject a great deal, but had come to no conclusion, when we fortunately received a copy of the Constitution and By-Laws of the Ninth Councilor District of the Indiana State Medical Society, of which Dr. Keiper of Lafayette, is the secretary. This district society has a printed constitution and by-laws, adopted Nov. 16, 1906, which we shall, in brief, review.

The wording of the constitution and by-laws is very similar to the wording of the model constitution and by-laws of the various state societies, and we shall only point out the peculiar parts of its organization.

The purpose is said to be "to federate and bring into one component organization the entire medical profession of the councilor district." "Component societies shall consist of those county medical societies which compose the district." There is a house of delegates, composed of, "first, one delegate elected annually by each component county society; second, the district council, the district councilor; third, ex-officio, the president and secretary, of the district society."

"The meeting is held in October each year." "Funds shall be raised by a single per capita assessment on each component society." Extracts from the by-laws follow:

Membership.—"The name of a physician on a properly certified roster of members of a component society which has paid its annual assessments shall be prima facie evidence of membership of the district society." The house of delegates is a fac simile of that body in the state society, and all other provisions of the by-laws are the same as those of the state society.

The result of this plan of organizing the councilor districts we believe would be equivalent to a second meeting of the state organization. Especially would this be true if the members of the district societies were so arranged that the president of the state society could attend each councilor district meeting and address the combined membership of the district assembled.

The meeting should last at least one day, and probably very soon it would be necessary to have a two days' meeting, and instead of having an attendance of from ten to fifty, as is the case at many district society meetings, there would be not less than 200 in attendance at any meeting.

The meeting should be on or about six months after the meeting of the state society and at such points as can be easily reached by a majority of the members of the district.

The per capita tax with such a large membership could be made very small, as the expense of the organization and meetings should be a little more than nominal.

There would be a great saving of energy on the part of the president of the state society. Dr. Percy spent at least thirty days in attending meetings of the county and district societies during his term of office, and Dr. Baum is attending nearly as many during his term. The state society should hardly call upon its president to give up so much without remuneration, but if the meetings of the district societies were properly arranged the president would be able to meet the officers and most of the members of the county societies without a great expenditure of time or money, and great benefit would result from such a conference. We hope it will be understood that the presentation of this plan is not to injure any existing district societies, but rather to build them up and make them larger and more influential than these organizations have ever been before.

THE DIAGNOSIS OF CONSUMPTION.

The early diagnosis of consumption is the one important problem now before the world. Its importance is not appreciated even by the profession, let alone by the laity. The *Bulletin* of the Chicago Health Department has put the question fairly before the citizens of that metropolis when it counsels the consumptive to ask the question: "Why was not my case diagnosed when it was curable? Was it my fault or my doctor's"? A few such queries on the part of consumptives will be unpleasant to the future happiness of the medical man, and it behooves every practitioner to get in line for self-protection, if for nothing else. Fortunately, the means of diagnosis are being rapidly perfected, and even now we are to be censured if we do not make the test for tuberculosis in every obscure case of whatever nature. It can not be too often repeated that persons in absolutely robust health may contract a tubercular infection and live for weeks and even months without showing any of the usual symptoms of the dread disorder.

The manufacturers are supplying tuberculin for diagnostic purposes at small cost, putting it within the reach of every one, and in Chicago it is furnished free of charge. We extract the following directions for two of the tests from a late issue of the *Bulletin* of the Chicago Health Department, taking them up in the order of their simplicity of application:

"Two kinds of tuberculin are supplied, one for use in the eye, the other for hypodermic use.

"*First*.—The ophthalmic-tuberculin diagnostic test; Method of Application: In order to avoid unnecessarily severe reactions two solutions are prepared of different strengths. The weaker solution (No. 1) is employed first, and if no reaction occurs within forty-eight hours the stronger solution (No. 2) is used in the *opposite* eye.

"The method of operation is as follows: The tube is pushed through the small rubber bulb which accompanies each package until the end is exposed; then both ends of the tube are broken off with the fingers or sterile forceps and the rubber bulb withdrawn until the end of the tube is within the bulb. The end of the tube from which the drop is to be expelled should be carefully wiped with sterile cotton or gauze to remove any small spicules of glass.

"The lid of one eye is pulled down, and by holding the tube parallel with the eye a full drop can be expelled by compressing the rubber bulb. One drop is all that is required and not the entire contents of the tube if the diameter of the same is large. Care should be used that the drop does not overflow on the cheek, which can be easily prevented by holding the lid down until the drop is distributed about the sac. It is advisable to warm the tubes to body temperature if they have been kept in a cool place.

"The second test should be applied to the opposite eye, as the one test appears to sensitize the eye tissue to some degree. The tested eye should be kept from all external irritation as rubbing, dust, wind, smoke, etc.

"Reactions: The first symptoms of a reaction appear in from three to twelve hours in most cases, but may be delayed twenty-four hours and continue for a week. The presence of a reaction is indicated by a scratchy feeling, secretion and redness of the inner canthus, caruncle or lower lid, which may increase and include the entire conjunctiva with edema of lids. There may be a stuffiness of the nostril on the corresponding side, accompanied by a slight coryza. It must be remembered that far advanced cases in which there is much involvement of tissue are not expected to react.

"Contraindications: Any existing disease of the eye or lids, conjunctivitis, blepharitis, trachoma, keratitis and iritis. Eye strain from errors of refraction need not prevent the use of the test so far as has been observed.

"*Second.*—The Use of the Hypodermic Variety: It is furnished in bulbs holding seven minims. It is ready for use as furnished. Take the temperature and pulse for three days, or until satisfied as to their range. Then inject from two to seven minims. Children should have one-half the adult dose. A rise of temperature to 101, a rise of pulse of fifteen beats, general aching and local reaction mean tuberculosis. The reaction usually comes in about eight hours and persists for about twelve hours. Seven minims is five milligrams. A dose which is higher than five milligrams will disclose tuberculosis that is encapsulated and of little or no clinical significance. A three-minim dose to an adult will probably reveal all tuberculosis that is of clinical importance."

A third method, not mentioned by the *Bulletin*, is similar in its technic to vaccination, and can be used in those cases where the eye test or the hypodermic test seem to be contraindicated.

STARTLING STATEMENTS CONCERNING MEDICAL COLLEGES OF CHICAGO AND ST. LOUIS.

At the annual conference of the Committee on Medical Legislation and the National Legislative Council of the American Medical Association, held in Chicago, December 10, 11, 12, 1907, Dr. A. D. Bevan, chairman of the Committee on Medical Education, said among other things: The situation (in the United States) is entirely unsatisfactory from the standpoint of medical education. Eighty of our schools are by no means in an acceptable condition, but on a very lenient marking we might mark them as we would mark a candidate before a state board as to their ability to teach medicine. Thirty-two of them are so absolutely poor that they are little more than diploma mills and should not be recognized by any state board in the Union. In spite of this fact, almost all of these schools are recognized to-day by most of the state boards. That is largely because the state boards are not familiar with the condition in which these schools are. Take, for instance, our own state, Illinois. We have some fourteen medical colleges. *We have more disreputable schools in the city of Chicago than any other city in the Union*, and yet many of the state boards outside of the State of

Illinois recognize all these medical schools. If these state boards would make a direct inspection of these medical schools; if the state board of Minnesota, of New York, California, or any of the states interested in a fair standard of the medical education, would make an inspection of the medical schools in the City of Chicago, they would doubtless refuse to recognize the majority of them as schools in good standing. It is a simple matter for Harvard, Johns Hopkins or the University of Pennsylvania or the University of Minnesota to develop a splendid medical course which rivals the medical course of any medical school in the world, but that does not represent the output of American medical schools. The output is unfortunately largely mixed with the output of the night schools, diploma mills, the schools without proper equipment, the schools that teach medicine to-day no better than it was taught twenty-five years ago.

Dr. Frank J. Lutz, of St. Louis, made the following remarks regarding a school in St. Louis, which is possibly the College of Physicians and Surgeons of that city:

"In 1872 there was organized in St. Louis a medical school which has been running uninterruptedly since, with but very little intermission. In other words, it has been running a good part of the natural life. When we examined and inspected this medical college to see its equipment I was told at the physiologic laboratory that a room had been set aside by the faculty for that purpose, but following the announcement that it must be properly equipped; when I had the pleasure of being shown into it I found that it consisted of several boxes which contained the suits of football players; there was not a single instrument with which to make a physiologic demonstration; not a single apparatus with which a student could make experiments, and the committee of which I was a member said, 'Gentlemen, when do you think you will have the proper outfit?' They replied, 'You are trying to force us: we ought to get a fair chance to equip ourselves.' Since 1872 this school had graduated hundreds and hundreds of men who are doubtless practicing medicine in my state and in neighboring states. When are we going to begin reform?"

"Students leave medical schools; they slip through examining boards; they do not know how, but they do so; and in our state, Missouri, until June 15 of last year, we examined everybody who came—blacksmith, preacher and horse doctor, if he presented himself for examination, and we examined him under the law, and we had to do it."

THE ILLINOIS STATE ACADEMY OF SCIENCE.

This body was organized at Springfield, December 7 last, under most encouraging conditions. Interesting addresses were given, a constitution adopted, and officers elected as follows: President, T. C. Chamberlin, University of Chicago, Chicago, Ill.; vice-president, Henry Crew, Northwestern University, Evanston, Ill.; secretary, A. R. Crook, State Museum Natural History, Springfield, Ill.; treasurer, J. C. Hessler, James Millikin University, Decatur, Ill.; 116 persons have already joined the

academy, and, according to the constitution, "active members shall be persons who are interested in scientific work and are residents of the State of Illinois. Each active member shall pay an initiation fee of one dollar and an annual assessment of one dollar." "For election, the candidate's name must be proposed by two members, be approved by a majority of the committee on membership and receive the assent of three-fourths of the members voting."

This academy should appeal to a large number of the medical men, and at the request of Secretary Crook we extend the invitation to all members of the State Medical Society to avail themselves of the advantages offered by membership in the academy. The academy will soon begin the publication of its transactions, which will no doubt be worthy of a place in any library.

DECATUR AND CHARLESTON TAKE NOTICE.

Dr. O. M. Rhodes, Secretary of the McLean County Medical Society, writes *THE JOURNAL* that a certain W. Earl Flynn and a Miss McIntire, his associate, have been operating in Bloomington under the guise of lecturers on hygiene and teachers of physical culture. After the manner of their kind they have taken every opportunity to derogate the medical profession and have made many statements not in accordance with scientific facts. They endeavor to hold their meetings in the churches and to get their advertisements largely from the pulpit. They bear recommendations purporting to be from the clergy and physicians in towns where they have been working. It is reported that they intend going from Bloomington to Decatur and then to Charleston. The medical profession of these cities as well as all towns in Illinois should be on the lookout for this combination.

Correspondence.

APPRECIATION FROM CALIFORNIA.

PETALUMA, CAL., March 12, 1908.

Editor Illinois Medical Journal:

Enclosed please find money order for the amount due on subscription to *THE ILLINOIS MEDICAL JOURNAL* to date. I wish *THE JOURNAL* continued, as I think I get more satisfaction and reliable information out of it than any other journal received. I like especially the clinical cases and discussions as reported by the different medical societies.

Thanking you again for the courtesy extended me, I am

Yours very truly,

A. R. GRAHAM, M.D.

DR. J. H. HOLLISTER COMMENDS THE JOURNAL.

Dr. J. H. Hollister, of 3430 Rhodes Avenue, Chicago, whose membership in the State Medical Society dates back to the fifties, and who served as treasurer for twenty years, dating from 1863, with the exception of 1875, when he was president, has written us commending *THE JOURNAL* in the following language. His opinion is especially significant because Dr. Hollister has known the organization from its infancy to the present time, and can, therefore, appreciate the remarkable changes which have taken place in the state society since he first began attending the meetings:

EDITOR ILLINOIS MEDICAL JOURNAL, Springfield, Ill.

Dear Doctor: I have been especially interested in the Medical History found in the March number of your *JOURNAL* as furnished by Dr. Ensign, and have so written him. The men are not many who can do such work from personal knowledge, and I am glad he is putting such history on record. I wish to express my appreciation of the appearance of *THE JOURNAL*. It is a credit to the society and the state. The editorials also are timely. I commend your effort to stamp out the quacks.

Cordially yours,

J. H. HOLLISTER, M.D.

PRELIMINARY PROGRAM

OF THE

Fifty-Eighth Annual Session of the Illinois State Medical Society,
to Be Held at Peoria, May 19, 20 and 21, 1908.

SECTION ONE—MEDICINE.

SECTION OFFICERS.

S. E. MUNSON, Springfield.....*Chairman.*
GEORGE EDWIN BAXTER, Chicago.....*Secretary.*

PROGRAM.

1. Arteriosclerosis. T. J. Pitner, M.D., Jacksonville, Ill.

Pathology. Extent; widespread throughout vascular system. Variations according to size and location of vessels. Relation to general fibrosis. Parts most frequently affected. Antecedent conditions and causes. Incident to old age, it often occurs in the young. Influence of prolonged muscular strain and high tension. Effects of certain infectious diseases and other poisons and the autointoxication. Signs and symptoms. Early recognition important. The rôle of arteriosclerosis in the origin of disease. Importance as a factor in the etiology of certain diseases of the brain and nervous system, of the heart, kidneys and other organs. A general primary process producing various local lesions. Prophylaxis, treatment.

2. Prognosis in Cardiac Inefficiency. George W. Webster, M.D., Chicago.

3. The Psychopathology of Hysteria. S. T. Robinson, M.D., Edwardsville, Ill.

The subject is discussed as entirely a psychical ailment. Certain fundamental psychological elements are regarded as furnishing the only key to its solution, on which must depend any logical scheme of treatment. While the not infrequent close correlation of somatic complications, and even at times of a somatic causation, is admitted, the facts lead to a conclusion that any effort to explain the malady on a materialistic basis must be futile. Moreover, in dealing with such a purely psychic problem, we find the conditions gradually but surely limiting us to the psychological field; when, by tracing the connections through primary psychological truths, we discover the narrowing investigation disclosing much that can not be controverted. Finally, it should be stated that the material of the paper has been assembled very largely from the ideas of foreign workers.

Discussion to be led by L. H. Mettler, M.D., and Julius Grinker, M.D., Chicago.

4. The Serum Diagnosis of Syphilis. William J. Butler, M.D., Chicago.

Origin and basis of test. Method of performing reaction. Its diagnostic value and clinical application. Recent experiments.

SYMPOSIUM ON THERAPEUTICS.

5. Study of Diagnosis and Pathology Should not Lessen Our Confidence in the Intelligent Use of Drugs. Thomas W. Bath, M.D., Bloomington, Ill.

6. Pathology versus Therapeutics. Homer A. Millard, M.D., Minonk, Ill.

7. The Value of Drugs in the Treatment of Disease. E. B. Montgomery, M.D., Quincy, Ill.

Discussion to be led by H. H. Fletcher, M.D., Winchester, Ill.

8. Necessity of Greater Knowledge of Materia Medica. Arthur R. Edwards, M.D., Chicago.

Especially of main drugs and of their main and adventitious action; of idiosyncrasies. Need of revising drugs listed as official. Need of cooperation of laboratory man and clinician. Teaching of materia medica and prescription writing. Value of simplicity. Study of action of drugs as well as indications at bedside. To lack of especial study and to inertia of many in profession is due the use of proprietary remedies.

9. Energy Value of Foods. Winfield S. Hall, M.D., Chicago.

1. Classification of foods on the basis of their dietetic values.
2. Methods of determining dietetic values.
3. Relation of dietetic values to energy or heat values.
4. Method of determining heat values.
5. Heat values of different classes of foods.
6. Heat or energy values required under different conditions.

10. The Practical Application of Food Values in Every-Day Practice in the Nutrition of Children from the Age of Nine Months to Puberty. Josephine Milligan, M.D., Jacksonville, Ill.

1. The Principles of Good Feeding.
 1. Adequate repair of waste.
 2. Adequate supply of energy.
 - (a) Heart. }
 - (b) Nervous. } Activity.
 - (c) Muscular. }
 3. To furnish sufficient material for growth and development.
2. Demands of Body.
 1. Quality of food.
 2. Quantity of food.
 3. Proper proportion of food.
 1. Proteids.
 2. Fats.
 3. Carbohydrates.
 4. Mineral salts.
 5. Water.
 3. Ability to Digest and Assimilate Between the Ages of Nine Months and Two and a Half Years.
 4. Ability to Digest and Assimilate Between Two and a Half Years and Puberty.
 5. The Food Stuffs Best Adapted to Meet the Demands of the Body.

11. The Control of Hyperacidity by Diet and Drugs. M. Milton Portis, M.D., Chicago.

Experiments were conducted on dogs prepared with a Pawlow stomach. Determinations of the secretory power of the small stomach with various foodstuffs were made and a study of the control of the secretion of HCl by various drugs carried out. A practical demonstration of the method of experimentation will be presented at the meeting.

12. Dietary Control of Gastrointestinal Disorders. Ralph W. Webster, M.D., Ph.D., Chicago.

Normal functions of the gastrointestinal tract. Influence of normal diet on activities. Influence of abnormal diet. Nervous control of gastrointestinal activities. Etiological factors in the production of gastrointestinal disorders. Primary and secondary diseases. General dietary regulations. Special factors in regard to diet.

13. Some Points Concerning the Treatment of Diabetes. With Special Reference to the Use of Oatmeal Diet. James B. Herrick, M.D., Chicago.

Importance of differentiating clinical types of diabetes. Value of other factors than mere estimation of the amount of sugar in the urine in determining the severity of a given case. The principle of tolerance of carbohydrates and practical application of the same treatment. Necessity for carbohydrates and their place in warding off impending coma. The use of drugs. The oatmeal diet of von Noorden, technic of its administration and its importance when properly used as a therapeutic agent.

14. The Drug Treatment of Cardiovascular Condition. Joseph L. Miller, M.D., Chicago.

Importance of accurate knowledge of the action of drugs. Drug nihilism. Foundation of our knowledge of pharmacology based on the action of drugs on normal animals, fallacies in applying this to treatment of diseased conditions, vasoconstrictors, digitalis, strophanthus, caffeine camphor, adrenalin; method of using, dangers. Vasodilators, nitroglycerin, nitrites, amyl nitrite, indications and dangers. Alcohol in shock, in acute infections. Intravenous digitalis therapy.

Discussion to be led by A. R. Elliott, M.D., Chicago.

15. The Dietetic Treatment of Pulmonary Tuberculosis. Frederick Tice, M.D., Chicago.

Discussion to be led by E. H. Butterfield, M.D., Ottawa, Ill.

16. Some Uses of the X-Ray in the Hands of the Practitioner. George S. Edmondson, M.D., Clinton, Ill.

17. The Technic of the Rest Treatment. Frank P. Norbury, M.D., Jacksonville, Ill.

The rest treatment based on natural means and methods. Every feature has a definite purpose. The success of the whole depends upon the united action of all. The special features are:

- Isolation.
- Rest in bed.
- Feeding.
- Massage.
- Suggestive therapeutics.
- Re-education.

The rest treatment as practiced by the S. Weir Mitchell method is very much misunderstood; consequently, abused and condemned. To

appreciate it requires familiarity with the technic, just as knowledge of technic in other fields of therapeutics is required. Summary of its values in various forms of nervous and mental diseases as observed in 500 cases.

Discussion to be led by H. T. Patrick, M.D., Chicago.

18. Baths and Exercise in the Treatment of Heart Disease. Robert H. Babcock, M.D., Chicago.

1. Brief description of Nauheim baths and method of administration, by means of artificial waters. Discussion of their effects and the cases in which they are indicated.

2. Exercises. Only suitable when given by a properly trained assistant. Brief description of resistance exercises, and certain other deep breathing exercises found beneficial. Reasons for their administration, cautions to be employed, and cases in which resistance and other exercises are indicated.

19. Five Hundred Consecutive Cases of Alcoholism. A Clinical Study and Statistical Comparative Report. J. F. Hultgen, M.D., Chicago.

1. Introduction

A. The material for this report.

B. Classification of drinkers. Is there a normal drinker?

C. When does the morbidity due to alcoholism begin?

2. Etiology of alcoholism.

A. Direct: psychoses, heredity, exhausting diseases, occupations, etc.

B. Indirect: habits, environment, ignorance, misguiding counsels, etc.

3. Method in studying alcoholic patients.

A. Immediate cause and causes for patient's consultation.

B. Effects of alcohol from the areas of ingestion and of absorption, or through the circulation of the tissue excreting it, and to the nerve-endings, peripheral, cortical, etc.

4. Diagnosis of alcoholism.

A. When it exists as the only affection.

B. When complicating organic diseases with which it may or may not have any connection.

C. As coexistent with psychoses, neuroses or spinal disease.

5. The salient lessons to be gathered from this study. Comparison with views expressed in text-books and literature. Need of unbiased observations. General private practice best way of ascertaining truth about alcoholism.

20. How Shall We Apply the New Tuberculosis Sanitarium Law?

A—The Law; the Possibilities; the Needs It Supplies.

Henry B. Favill, M.D., Chicago.

The act to enable cities and villages to establish and maintain tuberculosis sanatoria recently enacted and now enforced in Illinois.

1. The value of small sanatoria.

(a) Experience has abundantly demonstrated that small sanatoria for tuberculosis are as effective as large, though below a certain point not quite so economical.

(b) For all tuberculosis patients a thorough course of instruction in the sanatorium method is an advantage.

(c) For a very large percentage of the community subject to tuberculosis it is indispensable as an initial step.

(d) For another very large percentage it is a far simpler and more practicable procedure than other methods which might be within reach.

2. The desirable distribution of sanatoria.

(a) It is of the utmost importance that tuberculosis be dealt with at the earliest possible moment.

(b) The facilities for dealing with it should be so accessible as to reduce the element of procrastination and hesitation to the minimum.

(c) The ordinary process whereby people from the country or from town without facilities seek the hospitals of the cities, is undesirable and inapplicable in the case of tuberculosis.

(d) Fully as much tuberculosis develops in the country as in the city.

(e) The more sanatoria that can be established in satisfactory conditions throughout the community, the better will these principles be adhered to.

3. The reflex upon the whole tuberculosis warfare of widely distributed sanatoria.

(a) The existence of an institution of a "neighborhood" character, the consequent familiarity with the idea of seeking its assistance; the passing back into the community of those who have been cured and educated in the sanatoria will add tremendously to the sane intelligence of people upon this subject.

(b) The presence of such institutions affording the solution of complex problems to the physicians of a locality will stimulate their interest in efficiently dealing with the situation.

(c) The gravest difficulty to-day in combating tuberculosis is the inability of a physician to make sufficiently early diagnosis.

(d) The presence of an institution properly conducted will make it possible to a large extent for physicians to perfect themselves in diagnosis or to awaken them to their own imperfections.

4. The possibilities whereat in this act for accomplishing its ends.
 - (a) This act, like any other, is capable of perversion, selfishness, scheming, interested manipulation can in any given instance nullify its value.
 - (b) The honest intent of any community to do its work well is to be assumed.
 - (c) The vital point in the efficiency of such institutions will be the wise selection of superintendent, matron or head nurse, as the case may be, who shall be charged with the technic of treatment.
 - (d) The apparently necessary provision that all reputable physicians may treat their patients in such sanatoria carries with it the possibility of great danger, because of conceivable lack of ability in this direction.
 - (e) As a practical matter this danger though to be recognized may be set aside: 1. Because at the worst it will not offset the obvious advantages. 2. The tendency will be for all physicians to rapidly acquire sound methods under this opportunity.

B—Resources Now Available.

EVERETT J. BROWN, M.D., Decatur, Ill.

1. Resources of state.
 2. Resources of the various counties.
- Municipal resources.
- (a) City hospitals.
 - (b) Dispensaries.
- Private resources.

C—Dispensary: General Scheme and Application Under the Law.

ETHAN A. GRAY, M.D., Chicago.

Cost. Most economical means of treatment of most tuberculosis patients. Valuable as a means of instruction. Under new law, dispensary would function as "out-patient department." In some local cities the dispensary would take the place of a formal sanatorium.

D—The Sanatorium: Its Function and Value.

J. W. PETTIT, M.D., Ottawa, Ill.

The state as a unit of representation is too large. Not only concentrates the responsibility where it will not be felt, but has a tendency to the establishment of unwieldy institutions. Local sanatoria as provided by the Clarkin law more economic and effective. Will result in making provision for much larger number. Where local hospitals exist sanatoria can be conducted under same management, thus reducing cost of administration and equipment.

SECTION TWO—SURGERY.

SECTION OFFICERS.

E. WYLLYS ANDREWS, Chicago..... *Chairman.*W. B. HELM, Rockford..... *Secretary.*

1. Treatment of Joint Tuberculosis. Edward H. Oschner, M.D., Chicago.

The treatment of joint tuberculosis should be considered under three headings: General measures, the joints in general and the individual joints. Under the first general hygiene, dietetics and fresh air. Under the second, immobilization, prevention of secondary infections, vaccination and finally the treatment of mixed infection. Under the third, a consideration of the position under which each joint should be immobilized.

2. Placenta Prævia. With Report of Case. F. D. Hollenbeck, M.D., Chicago.

Definition; history; etiology; symptomatology; prognosis and treatment, with especial reference to the conservative method of handling those cases where diagnosis is made late in pregnancy and at beginning of labor.

3. An Interesting Case in Diagnosis Confined by Surgical Operation. C. B. Horrell, M.D., Galesburg, Ill.

Renal calculus. Diagnostic points without the use of the x-ray. Subjective symptoms. Objective signs. Urinalysis.

4. The Treatment of General Peritonitis Complicating Appendicitis. Daniel N. Eisendrath, M.D., Chicago.

Brief view of principal points in pathology and diagnosis of this complication of appendicitis. Although it was formerly regarded as a much dreaded condition, we now feel that we can control the outcome in the majority of cases if seen during the first 24 to 72 hours. The reasons for this improvement are: (a) Rapid technic in removing the source, i. e., the appendix. (b) A minimum amount of manipulation of the intestines with no irrigation. (c) The use of the Fowler position and of the continuous administration per rectum of normal saline solution. How the latter two act will be discussed. Presentation of author's back rest for maintaining Fowler position and also of an apparatus for administering salt solution. Statistics including cases treated at Michael Reese Hospital.

5. Diagnosis and Treatment of Acute Tenosynovitis of the Hand. Allen B. Kanavel, M.D., Chicago.

A discussion of the anatomical and pathological conditions to be found. Illustrated by lantern slides, showing the position of the tension sheaths with the points at which they most commonly rupture, the secondary foci which develop in the hand and arm, the proper methods of treating the involved tendon sheath, and the complicating abscesses which develop.

6. The Significance of Inflammation and Its Treatment. S. C. Stremmel, M.D., Macomb, Ill.

Inflammation as one of the chief defenses of the human economy; is it ever pathological? Its present and probable future treatment.

7. Fracture Basis Cranii with Diastasis of Left Temporo-Parietal Articulation, Ending in Complete Recovery. George deTarnowsky, M.D., Chicago.

Crushing injury of head, forces exerted bilaterally on temporo-parietal bones, resulting in diastasis of left temporo-parietal articulation. Fracture of base by irradiation. Amaurosis, anosmia, facial paralysis on left side. No involvement of auditory nerve. Complete recovery.

8. Some Phases of Frontal Sinus Surgery. A. E. Prince, M.D., Springfield, Ill.

Anatomical points and their relative bearing on the adjacent structures, the brain, optic nerve, cavity of the orbit and ethmoidal cells; the various operative procedures which are in vogue, both by the general practitioner and the specialist, and the indications leading to the adoption of each procedure. Special consideration of the Ingals' method, Coakley's method, Killian's method, Yankeur's method, and a modification by the author. The presentation of an instrument for facilitating the drainage of the frontal sinus through the nose without external opening. A number of reports and a few cases illustrating the various operations. Exhibition of original head operated upon by Professor Killian, and an exhibition of plates illustrating the relation of the frontal sinus to adjoining structures.

9. Tuberculosis of the Mammary Gland. William Fuller, M.D., Chicago.

10. Psychic Aberrations Associated with the Diseased Prostate Gland. J. F. Percy, M.D., Galesburg, Ill.

11. Resection of the Stomach for Carcinoma, with Report of One Hundred and Sixty-three Cases Operated on in the Breslau (Germany) Clinic. R. A. Noble, M.D., Bloomington, Ill.

12. Intestinal Carcinoma. J. W. Hairgrove, M.D., Jacksonville, Ill.

13. Traumatism of the Brain. J. W. McDonald, M.D., Aurora, Ill.

Fractures of the skull, their diagnosis and treatment. Will devote most of the consideration to the intracranial lesions, viz., hemorrhage, thrombosis of sinuses; contusions, lacerations and their sequelæ; meningeal and parenchymatous inflammations usually of a septic character.

14. Diagnostics in Spinal Surgery. Julius Grinker, M.D., Chicago.

A correct history of the past illnesses and injuries is absolutely necessary because of the frequent connection of past trauma with the development of surgical diseases of the spinal cord. Attention should also be paid to the order in which symptoms develop and whether the onset was slow or sudden. The objective examination will concern itself with disorders of (a) motility, (b) reflexes, (c) sensation. The determination of the exact level of disease and what structures in the cord are involved will occupy the greater portion of time. Finally, the relation of the objective cord findings with past and present history and possible findings in other parts of the body will often enable us to make not only a localizing, but also a pathological diagnosis. Modern spinal surgery depends entirely upon modern methods which are based upon the recent painstaking labors of laboratory and clinical neurologists.

15. Surgery of the Spinal Cord, with Special Reference to Traumatic Lesions of the Cord. R. C. Bourland, M.D., Rockford, Ill.

1. Diagnosis of spinal cord injuries.

2. Location of the lesion.

3. Citation of case.

4. Surgical treatment.

5. Discussion of recent work in the surgical treatment of spinal cord lesions.

16. Obstetrical Work by the Country Doctor. C. B. Brown, M.D., Sycamore, Ill.

17. Fractures of the Shaft of the Femur. H. C. Mitchell, M.D., Carbondale, Ill.

18. The Third Stage of Labor. E. E. Davis, M.D., Aron, Ill.

Physiology of separation and expulsion of placenta and membranes. Treatment of third stage. Normal cases. Complications, as retained membranes, adherent placenta. Hemorrhage.

19. Extrauterine Pregnancy and Hematocele, with Cuts and Slides. A. Belcham Keyes, M.D., Chicago.

20. Further Studies in the Diagnosis and Treatment of Fistulous Tracts with Bismuth Paste. Emil G. Beck, M.D., Chicago.

1. Brief review of the work done.
2. Modification in the composition and method of injection.
3. What becomes of the bismuth after injection?
4. Limitations in the use of bismuth injections.
5. Demonstration of cases.
6. Demonstration of stereoscopic radiographs of injected fistulæ.

BORDER-LINE CASES.

1. A Chapter in Medical Gynecology. O. B. Will, M.D., Peoria, Ill.

In which the author deprecates the usual classification of gynecology as a surgical, any more more than a medical specialty, and argues that in their genesis, their diagnostic relationship, their preponderance of motif, and their therapeutic demands, gynecological maladies are more nearly allied to the latter than the former sphere of cultivation. He contends that by far the larger percentage of cases legitimately coming within the specific domain of the gynecological specialist are more plainly related in all their bearings, to the methods and developments of general medicine than to the analytical and curative processes of surgery. He contends that only the greater activity in ablative and reparative work on the pelvic organs of women during the past decade or two, and their spectacular character, have served to bias the popular and professional mind toward surgery, and to correspondingly keep in the background the less sensational but more far-reaching advances in non-operative procedures. Illustrations are not wanting and are cited to show the truth of the foregoing contentions, and to point out the slowly growing tendency in the direction of more conservative measures, or rather those whose curative influence is more in harmony with functional integrity, and in keeping with Nature's processes and demands.

2. The Ophthalmoscope in General Practice. Cecil M. Jack, M.D., Decatur, Ill.

Aids to diagnosis which have been of value to the science of medicine. Reasons why the ophthalmoscope should have a position of more prominence. Reason why it is not more used. How we can become familiar with the use. The instrument. The source of light. The mydriatic. The dark room. The conditions met with in medical practice where the ophthalmoscope can lend aid to the physician. 1. The aid it may give to differentiating between organic and functional disease. 2. Cerebral tumor. 3. Meningitis. 4. Renal disease. 5. Diabetes. 6. Tabes. 7. Disseminated sclerosis. 8. Paresis. 9. Pernicious anemia. 10. Syphilis.

3. Fetal Death in Utero. C. G. Smith, M.D., Red Bud, Ill.

The causes of death of the fetus *in utero* are placed in three classes: Abnormal maternal conditions, diseases truly of the fetus itself, abnormal paternal conditions. Prevention and treatment are considered in accordance with the existing causes of the unfortunate condition. Meddlesome midwifery received attention. Cases of recent occurrence in the writer's practice are reported and deductions are drawn therefrom.

4. A Plea for More Active Cooperation with the Local Secretary. C. Hubart Lovewell, M.D., Chicago.

5. Some Observations on Ophthalmia Neonatorum. Willis O. Nance, M.D., Chicago.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

Regular Meeting, Feb. 10, 1908.

The Society met in the Elks' club rooms as usual, with the officers and a good number of the profession in attendance. Letters from Drs. L. Harrison Mettler, D. N. Eisendrath, Emil Ries, Alfred C. Croftan, James F. Percy, Joseph B. Bacon, John Lincoln Porter, Frank P. Norbury, Carl E. Black, and William L. Baum, who were recently elected to honorary membership in our Society, were read. By motion it was decided to celebrate the fifty-eighth anniversary of the founding of this Society at the March meeting by having Dr. J. W. Pettit, of Ottawa, as the speaker of the day. After the members had had luncheon together at Hotel Newcomb, Dr. D. M. Knapp, who visited Wright's clinic in London last summer, gave an interesting paper on "The Opsonic Index." The symposium on diseases of the liver, gall bladder and bile passages was then presented. Dr. Kirk Shawgo discussed the anatomy, functions and disorders of the liver; Dr. Werner, cholangitis, jaundice, hepatitis and perihepatitis; Dr. Montgomery, functions of gall bladder and ducts; Dr. Nickerson, medical treatment of diseases of gall bladder and bile passages; Dr. Christie, Jr., the diagnosis of diseases of liver, gall bladder and bile passages; Dr. Johnston, cholelithiasis, carcinomata of liver and bile passages and surgical treatment of the same. All the papers were quite generally discussed and much interest was shown. The applications of Drs. R. J. Christie, Sr., and Dr. Elizabeth B. Ball were read and referred to the Board of Censors.

Special Meeting, Feb. 27, 1908.

A special meeting of the Society was called to consider a proposition from the Quincy Medical and Library Association to turn over to the County Society their library of some 2,000 volumes. After subscription lists had been circulated the report was made that the sum of \$448 had been secured for the purpose of maintaining a library in the County Society. The question of receiving this library from the Medical Library Association was quite fully discussed, and when the vote was taken it was unanimously favorable. By this action the County Society secures a splendid nucleus for their library and also effects the unification of the profession of Quincy and Adams County in one strong medical society—the Adams County.

Regular Meeting, March 9, 1908.

The fifty-eighth anniversary meeting of the Adams County Medical Society was held in the Elks' club rooms on the above date, President Dr. J. H. Rice and a large number of the profession being present. Dr. R. J. Christie, Sr., and Dr. Elizabeth B. Ball were elected to membership. The committee appointed to arrange for the legal reception and transfer of the Medical Library Association's library made their report, and the County Society is now in possession of that fine library. Amendments to the constitution and resolutions as to the control and care of this library were presented and adopted. Adjournment was then had to Hotel Newcomb, where a luncheon was served in compliment to four members of the Adams County Society who have been in practice fifty years or thereabouts. Those thus honored were Dr. Joseph Robbins, Dr. R. J. Christie, Sr., Dr. J. M. Grimes, and Dr. J. G. Williams, and short and felicitous talks were made by each of them. Upon the return to the club rooms Dr. J. W. Pettit, of Ottawa, was introduced and addressed the profession on "Some Facts and Fallacies of the

"Tuberculosis Problem and Its Treatment." Dr. Pettit is recognized as the leader and pioneer in the splendid crusade now in operation against tuberculosis and gave a fine address on this subject. In the evening at the Presbyterian Church he addressed an audience which filled that house to standing room on "The Tuberculosis Problem." Dr. Pettit's coming has set to work influences both within the profession and without which will be felt from this time on. A hearty vote of appreciation was given the doctor by the profession of Quincy and Adams County, and the daily press published his address in full. C. A. WELLS, Secretary.

CHAMPAIGN COUNTY.

The Champaign County Medical Society held its regular meeting in the parlors of the Hotel Beardsley Feb. 13, 1908. Meeting called to order at 2 p. m. by Dr. J. S. Mason, President. Program: "Measles and Complications." Dr. Nellie Baker. Discussed by Drs. W. K. Newcomb, J. A. Hoffman, John Marten, Jennie Lyons, C. S. Davis, Ellen Miner, J. S. Mason, and Osbourn. "Suppurative Inflammation of the Kidney." Dr. C. S. Davis. Discussed by Drs. Howard and Davis. At the business meeting following one application for membership was received and referred to the Board of Censors. A communication was read and placed on file from Governor Deneen, thanking the Society for its endorsement of the State Tuberculosis Sanitarium idea. A communication from Dr. George W. Webster, President of the State Board of Health, relative to the proposed symposium on tuberculosis was read and ordered held over until next meeting.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Meeting of Jan. 15, 1908.

A clinical meeting was held Jan. 15, 1908, with the president, Dr. Henry B. Favill, in the chair. Dr. William E. Morgan reported and exhibited a case of traumatic chyloous ascites. The case was discussed by Drs. William T. Belfield, Victor C. Bacens, and in closing by Dr. Morgan. Dr. Emil Beck read a paper entitled "A New Method of Diagnosis and Treatment of Tubercular Sinuses and Other Fistulous Tracts." He presented patients and demonstrated radiographs by stereopticon. The paper was discussed by Drs. A. J. Oehsner, Jacob Frank, E. W. Ryerson, Max Reichmann, Henry B. Favill, and in closing by Dr. Beck. Dr. Julius Grinker reported two cases and exhibited the patients: (a) An unusual case of syringomyelia. (b) A case of progressive muscular atrophy of the Landouzy-Dejerine type.

EXHIBITION OF CASE OF TRAUMATIC CHYLOUS ASCITES.

WILLIAM E. MORGAN, M.D., CHICAGO.

The case to which I desire to call your attention this evening was first presented to my notice by Dr. Geo. Glaser of this city eleven weeks ago, and two days after the receipt of the injury which was the cause of his present condition.

While returning from an errand he was run over by a wide-tired wagon such as is used by the large stock-yards firms for delivery of meats, the wagon wheel or wheels passing horizontally across his abdomen just below the costal margins. The immediate shock was severe and accompanied by all the usual symptoms of contusion of the abdominal contents, but without the extreme evidences of ruptured viscera or great internal hemorrhage. The parents refusing consent to immediate operation, the child was put to rest with mild opiates, all nourishment prohibited, and expectant measures adopted. Distressing vomiting persisted for forty-eight hours, the abdominal walls throughout were held in rigidity, and oppressive muscular response, due to right sided tenderness.

From the symptoms and findings I concluded that there had been severe contusion to the liver and other indefinite abdominal viscera, and as the boy was

making marked improvement I advised a continuation of the expectant methods. Soon after this visit, the parents yielded to the appeals of the child for nourishment, and began to give water, then milk and broths, and finding no harmful results, gradually increased to soft diet, the child meanwhile increasing in strength, losing the pain, or rather distress, and making altogether favorable progress except in one regard, viz., a progressive ascitic condition which at the end of two weeks had become so great as to impede respiration and embarrass the heart.

Contrary to the findings in a closed portal obstruction the ascites was not accompanied by dilated and tortuous integumentary veins, but gradually diffused itself over the whole abdominal area and flanks and extended slightly into the skin of penis and serotum, but not the thighs and legs. The pulse after the first forty-eight hours, though weak, was not markedly increased in frequency, the temperature rose only to 100° F., vomiting, which was never bloody, ceased, the bowels moved quite naturally, no blood in stools, and urine free from blood was voided without assistance.

When I first saw him on the second day after the injury, there was moderate tenderness over the epigastrium and right hypochondrium, and although abdominal rigidity was quite noticeable, all of the abdomen could be examined without difficulty and without noticeable distress to the patient. The hepatic area was slightly reduced, there was no piano-percussion evidences of free fluid in the abdomen, no flatness in the flanks or lower abdominal areas, the splenic area was well and normally defined, stomach slightly dilated and a very slight tympanites existed over the rest of the abdomen. I was unable to make out the left kidney, but the right one could not be palpated owing to the rigidity of abdominal walls.

Tapping now became necessary and two gallons and a half of fluid were drawn off at the first sitting, very similar to that which I show you, and which proved to be chyle of the purest type. Careful microscopic examination of this fluid first drawn failed to reveal even a red blood corpuscle, and although he has been tapped regularly at least once a week since that time, no blood has ever been found and no extraneous substances except a few peritoneal endothelia after centrifuging. Owing to the fact that the parents would not allow operation without a guarantee of cure, no operation has been attempted excepting the tapping. In lieu of the scientific value of an operation for closing the leak we have, however, a continuous fountain of physiological information in the opportunity of obtaining at measured intervals human pure chyle, produced by an otherwise perfectly healthy individual, the subject being fed during these intervals on measured diet of definite chemical composition in each instance. These investigations are being made under the supervision and at the direction of Dr. W. S. Hall and the results will at some future date be published in such form as to be available to all of us.

The boy, notwithstanding the constant loss of a large proportion of his ingested food is gradually gaining and the abdominal accumulation growing less, showing a tendency of Nature to heal the leak in his chyle duct or else, by collateral branches, to re-establish the absorbent economy.

From what casual information I have been able to obtain, I believe this is the first and only case recovered of chylous ascites, without contamination by other secretions or excretions or admixture with returning lymph from the rest of the animal economy or with the products of disease such as we get in carcinoma, chylous cysts and the like.

DISCUSSION ON THE CASE OF DR. MORGAN.

Dr. William T. Belfield:—About twenty years ago I saw, with the late Dr. J. M. Hutchinson, a case of chylous ascites in an adult following a blow on the abdomen. After it had persisted a number of months in spite of repeated tapings, an exploratory laparotomy was made. This afforded no information as to the local lesions, but was followed by the prompt and permanent cure of the ascites.

Dr. Victor J. Baceus:—I also remember one case of chylous ascites which occurred in the practice of the late Dr. Henrotin at the German Hospital. The woman was very fat, and she was tapped several times. A laparotomy disclosed sarcoma of the left ovary, with metastasis in mediastinum, with more ascites. The operation was of no benefit whatever. The woman died several months later without any diminution in the size of the abdomen.

Dr. Morgan (closing the discussion):—As a matter of physiological curiosity, I will say that the fat globules in this chyle are two thousand times smaller than the average fat globule of milk. It takes two thousand of these emulsified fat globules to make one of the average globules of fat in milk. So you can see how fine the emulsification is in the human economy.

DISCUSSION ON THE CASES OF DR. EMIL BECK.*

Dr. A. J. Ochsner:—Dr. Beck has given us a method which is certain to possess real practical value. In the first place, the fact that by this method we are able to know definitely the extent of the disease is of great value. There is a vast difference in the results following operations for these conditions, depending largely upon the thoroughness with which the operation is performed. A surgeon who has the thoroughness necessary to find all of the ramifications of the disease is bound to have a large proportion of successful cases. One who does not naturally go to the end of things has quite the opposite results. With this method, it is almost impossible, if the injection is carried out properly, for one to miss portions which he would be very likely to miss otherwise. The results we have seen here show that from a therapeutic standpoint the method is even of greater value. The first case that was shown alone would be convincing to me. All of the irrigation methods that have been used with the solutions containing the various silver salts or iodine or olive oil with turpentine and eucosote, iodoform and ether, iodoform in olive oil or glycerin, have been very unsatisfactory. In fact many of those who have had the greatest opportunity of observing and treating these cases have come to the conclusion that hygienic and dietetic measures and rest by the use of plaster-of-Paris casts or splints are about the only forms of treatment that amount to much outside of operative treatment. But here we have an addition which I believe will do more than any other single thing in the treatment of these cases. There are several elements of value in this. In the first place, all the ramifications of these sinuses are reached by this substance, so that all of these portions are treated simultaneously, which, I believe, is a principle of importance. If one bears in mind the appearance of the skiagram in the first case, he will obtain the idea that every portion of the sinus is placed in the same favorable condition for healing. With any of the other forms of treatment one portion improves while another portion gets worse, so that the disease keeps on indefinitely. We have a second favorable condition, the condition of pressure. There is a certain amount of pressure exerted upon these tuberculous surfaces which we know is most favorable. Many years ago Professor John Cheyne of Edinburgh introduced an exceedingly satisfactory form of treatment in which he secured in all portions, especially in cases of sinuses through wrists and ankle joints, by means of rubber tubing or gauze, a uniform condition of pressure. The third advantage established by this method consists of drainage. We have a plug throughout these sinuses. The space between this plug and the inner surface of the sinus must form a most favorable surface for the expulsion of what serum may accumulate, and it is not likely to accumulate in any space because there is no space which is different from any other. The fourth benefit comes from the fact that these plugs have a tendency to stimulate the formation of healthy connective tissue, which will ultimately close these sinuses. The fifth advantage comes from the further fact that the plug establishes a condition of rest in these cases which is a very important point. This plug is virtually a splint. It places the tissues, the walls of these sinuses in a condition of rest. The case that was exhibited in the other room which had the most careful treatment from many of

* For text of Dr. Beck's paper see p. 402.

the most capable surgeons in the city for years without a satisfactory outcome was cured within a few weeks by this method. I shall certainly introduce this method at once, and I feel that this has been one of the most profitable demonstrations that I have ever witnessed.

Dr. Jacob Frank:—I have listened with a great deal of pleasure to the paper of Dr. Beck and have been also very much interested in the exhibition and demonstration of his cases. I have not had any personal experience with this new method, but any method that will aid us in bringing about a cure in cases of tubercular fistulæ is surely welcome. The healing of tubercular sinuses has been a nightmare to all surgeons, and everyone has had the experience spoken of by Dr. Beck, of cases going the rounds from one surgeon to the other, and of being operated upon. I am sure that we feel indebted—at least, I do—to Dr. Beck for demonstrating some of his very beautiful results.

He speaks about the framework from his injections in aiding the organization of the fistulous tract by blood vessels. That might be so, but still I have a theory to offer which I may not be able to carry out as I have not made the experiments. But if I am not mistaken, he uses in some of his injections a certain per cent. of iodoform or formaldehyd. It is my belief that the cavities that are injected keep up the action of the iodoform or formaldehyd on the tissues, and it has a bactericidal effect. This may or may not be true. I offer it simply as a theory, as the doctor does not know whether the fistula heals by blood vessel formation or not. The cases in which he had the best results were those in which there were sinuses or tubercular disease of the bone, especially caries. In necrosis of the bone it would necessitate an operation, first, to remove the sequestrum before injecting the doctor's emulsion; otherwise a cure could not be expected, so that it will not be entirely a method for itself without the aid of surgical procedure.

Another thing which strikes me is that in a fistulous tract it would be useless to inject it if it is not in a quiescent state; I mean by that if it is discharging pus freely. If the mouth of the fistula is very much inflamed, it would have to be brought to a quiescent state in order to get the good results from the injections.

There is one class of cases in which this method will not work at all, and that is, in fistulæ that occur from some secreting organ. It would seem almost impossible that any injection would cure a fistula that is produced from a secreting organ. If the secreting organ is entirely removed, it seems to me there ought not to be a fistula, especially in the cases that the doctor demonstrated upon the kidney. If that kidney had been entirely removed, or if there was no silk ligature left in the bottom, it would have healed without any injection. There must have been some kidney tissue left, or there must have been a ligature down to the bottom, and that particular case could have been cured without injections. For diagnostic purposes, it is decidedly a great step forward in surgery, and I think it has come to stay, and will be recognized in time all over the world, and will be written about in text-books. I think a Roentgenogram of a fistulous tract, especially an old one, should be taken to demonstrate to the surgeon what he is to do. I have had the same experience as the doctor spoke about of operating on a fistulous tract and not getting a cure. The result was no doubt because I did not clean out all the tracts. I left some. If we had a Roentgenogram to show us that we do not deal with a simple fistula, but with a complicated one, we would then get much better results by removing the thing in its entirety.

Again, I wish to thank the doctor for his admirable paper.

Dr. Edwin W. Ryerson:—I do not think the importance of this paper can be over estimated. If these beautiful dreams we have been listening to are true, and I do not think we can doubt that they are true, we are face to face with one of the greatest advances that have been made in the history of tuberculous joints, for of these alone will I speak. I will not present my opinions to the great undesirability of producing any fistulæ, any tuberculous sinuses in joints, because I have fixed notions about opening abscesses and draining them, and to mention these would not be in line with the paper of this evening. But granting that some generous surgeon had stuck a knife into a psoas abscess, has had it dressed for a few weeks, and has, as is always the case, gotten secondary infection introduced

into it, in a short time we have a difficult problem to deal with. The case is not open to operative interference. Tuberculous sinuses originating in the spine, whether in the lumbar or dorsal region, should not be cut down upon by anyone with any vague idea of eradicating all the diseased tissue, even in the lumbar Pott's disease, because we can not open up and remove all this diseased tissue. I have tried it a number of times, as have other surgeons, and all of us have failed. It can not be done. It is dangerous. It is entirely out of the question.

The Mosetig-Moorhof plug has not fulfilled our expectations. The conditions requisite for the use of this bone plug are difficult to obtain, at least in my hands, as the entire area must be opened up, the infected tissue removed, and the cavity perfectly dried out, so that there is no blood left in it, and the plug then put in. Any one who has been confronted with a case of osteomyelitis of the lower end of the femur of high degree knows how difficult it is to produce any dryness, to stop the oozing of blood. I have done a number of such operations and could not completely stop the bleeding. Therefore, portions of the Moorhof plug came out. Dr. Kerr spoke to me about the Moore modification of the plug which is simply iodine, olive oil, and spermaceti. I have used this plug by putting it up in the soft form into a number of cavities, after cleaning them out, and in several instances, much to my surprise, healing occurred. In several others the discharge kept up. Now, if such results as Dr. Beck's can be accomplished with such a harmless, inert substance, as I believe subnitrate of bismuth is, then it should be more generally used. It may be that some chemists can show how the bismuth may produce nitric acid on decomposition, but that is not the reason these sinuses or fistulae heal. If we can use this substance, as Dr. Beck did, I believe, in some cases, without any formalin, we can not do the patient any harm. We are not subjecting him to any mutilating and dangerous operation, as many of the operations are. Many of these patients have died in whom attempts have been made to cure the sinuses they had. I think this method can be used by every one. The series of cases reported is large, and the results are very striking, and we can not doubt this testimony. We must not make the mistake, however, of thinking that these sinuses which result from tubercular joint disease are simply tuberculous. There are mixed infections of various kinds in them. That is why the opsonic tuberculin does not work; there are too many other germs in these cases besides tubercle bacilli. In a few cases the opsonic experts have attempted to make vaccines for all the different forms of bacteria in each case, but the results have not been striking.

So far as the diagnostic value of this method is concerned, I think I would rather have that omitted altogether. If a general surgeon is treating one of these cases and sees a lot of these sinuses, it fires him with zeal; it is an attractive proposition; but it may be attended with great danger. I do not favor that part of it. It is interesting to know the extent of disease which we can cure by this method, but it must not be held forth as a bait, to lure the surgeon to bite at a many-barbed hook.

Dr. Max Reichmann:—From the standpoint of the roentgenologist, I wish to congratulate Dr. Beck on the new way in which he has applied a rather well-known principle. We know that Rieder, in Munich, in the year 1904, was the first one who applied this bismuth emulsion, using a large percentage of bismuth in the stomach and getting beautiful pictures which enabled him to show the form and position of the stomach. Holtzknecht, of Vienna, used the same method for Roentgenoscopic purposes by viewing the stomach with the fluoroscope. Voelker and Lichtenberg published a method two years ago by which they injected a 5 per cent. solution of collargol into the bladder, following up the ureter and the pelvis of the kidney, and then roentgenographed those regions. But for the purpose of showing fistulae, it was not done, and, of course, Dr. Beck deserves great credit for that.

The only thing I would call his attention to is that in injecting bismuth and taking a roentgenograph, he can not tell in a fistula, for instance, covering one of the long bones, from the roentgenogram, whether the fistula is behind or in front of the bone. It is necessary to take two views, a lateral view and an antero-

posterior view, or, better, to make stereoscopic pictures and to use the stereoscope. The latter method must be employed in all cases where the fistula is in the pelvis, the thorax, etc. I wonder if a paste made of collargol will not show the conditions much better, because collargol has greater atomic weight than bismuth; therefore, the shadow cast by the paste would be much clearer.

Dr. Henry B. Favill:—Never in my experience in this society have I heard a more valuable, suggestive, or promising subject produced than in this paper. It has been a great pleasure to me to be present and to have heard this admirable and valuable contribution.

Dr. Beck (closing the discussion):—With reference to the nice compliments that have been paid by the various discussers, I accept them with a great deal of pleasure, but I must say to you, however, that I am not the only one who has been instrumental in bringing forward this work. Dr. Ospray and my brother, Carl Beck, have been making suggestions and helping me in this work, and for which I desire to thank them.

With reference to the remarks made by Dr. Frank, that he thinks it is the iodoform and the formalin that close the fistulæ, I think they help, but I have not employed them except in the last few cases. In a case I had two years ago the fistula closed up after one injection. Consequently it is not the iodoform alone. I would also say with reference to a fistula from secreting organs, that if the fistula has originated from a kidney, this tubercular kidney naturally acts the same as a sequestrum does, and it should be removed. I do not agree with Dr. Frank that we can not fill up a fistula which contains pus. In a case of empyema one cupful of pus was discharged the first time I injected the cavity. When I injected the cavity it displaced the pus; the pus came out in such quantities that it spoiled my picture.

Dr. Ryerson has said that a psoas abscess should not be opened after it has formed. I can not agree with him entirely in regard to that. If there is an abscess and it causes fever, even at the risk of a fistula, we can open it up and cure it by this method.

I think it would be well for us, if possible, to try and get the cases in different parts of the city and those visiting the different clinics, treat them by this method, and then make a joint report on this subject at the Congress on Tuberculosis to be held in Washington. Then our results will receive a wider circulation, and the work can be carried on on a larger scale.

I do not think the criticism of the Moorhof plug is justifiable. I do not think we should discard the use of this plug. The plug is useful and valuable, and if one should now and then come out after it has been put in, another should be inserted.

I do not understand Dr. Ryerson's remarks about not trying this as a diagnostic method. The more surgeons know with regard to finding out what is the trouble, the better it is both for them and their patients.

Dr. Reichmann is absolutely right about taking stereoscopic pictures of these fistulous tracts, but I do not know how to do that. I believe a paste made out of collargol will show a clear picture, provided the percentage of collargol is sufficiently strong. The bladder has been injected with collargol solution, but the solution was too weak to show a very distinct outline. The question, however, would have to be settled, if collargol is absorbed same as bismuth.

Meeting of Jan. 22, 1908.

A regular meeting was held Jan. 22, 1908, with the president, Dr. Henry B. Favill, in the chair. The subject for discussion was a symposium on "Systemic Blastomycosis." Papers were read as follows: 1. Pulmonary Onset; Subsequent Development of Abscesses; Organisms Obtained from Blood Cultures; Autopsy Report, by Dr. H. R. Mock. 2. Ocular Onset; Pulmonary Manifestation Later, with Abscess Formation; Autopsy Report, by Dr. J. F. Churchill. 3. Pronounced Metastatic Lesions Secondary to Pulmonary Infection; Partial Recovery; Relapse, by Dr. H. Jackson. 4. Pulmonary Onset; Spinal Lesions Simulating Pott's Disease, with Partial Paralysis, by Dr. F. H. Boughton. 5. Systemic Infection Fol-

lowing Local Lesion; Autopsy; Special Report on Etiology and Pathology; Illustrated by Stereopticon, by Dr. A. M. Stober. The symposium was discussed by Drs. O. S. Ormsby, Howard T. Ricketts, Edwin W. Ryerson, and in closing by Dr. Stober. On motion of Dr. Keyes, a vote of thanks was extended to the essayists for their admirable contributions.

DISCUSSION OF THE SYMPOSIUM ON SYSTEMIC BLASTOMYCOSIS.

Dr. Oliver S. Ormsby:—I have been very much interested in this subject for a number of years and should like to express my appreciation to Dr. Stober and his co-workers, of their valuable contributions presented to-night. The work is of high order and very commendable from every standpoint, and if Dr. Stober can prove in the future that the organisms he has obtained from wood are pathogenic and capable of producing blastomycosis, it will be of great scientific value.

I should like to run over very briefly a few of the cases that have been previously reported, to call attention to the similarity and dissimilarity of these cases and those reported to-night, and point out some of their prominent features, as the papers this evening could not go into this part of the subject.

Last year, Dr. Montgomery and I prepared a paper on systemic blastomycosis and granuloma coccidioides, which was read September 14, before the International Dermatological Congress held in New York City. As many of our European colleagues are still skeptical concerning blastomycosis, we thought this would be a good occasion to bring the subject to their attention. At that time we were able to collect of reported and unreported cases twenty-three of systemic blastomycosis. In this list were four of the cases reported to-night, abstracts of which were kindly given us in advance by Dr. Stober. With the case brought forward by Dr. Boughton this evening, the total is now at least twenty-four. Of these twenty-four patients eighteen are dead and in all probability the nineteenth, as the patient recorded by Dr. Coley of New York some months ago has without doubt died before now; three have been cured; one has been lost sight of; the other is ill at the present time. The first recorded case of systemic blastomycosis occurred in Germany and was reported by Busse and Buschke. This case was practically blastomycotic pyemia and was reported in 1894. In 1895 Curtis reported the second case which was presented as having myxomatous tumors. It was found that some of these tumors were composed largely of the organisms of this disease and we may suppose that they were large abscesses. In both of these cases the organisms were similar to those now described in this disorder and both patients died.

In 1902 two cases were described in the literature, the first reported by Drs. Montgomery and Walker, which was interesting for the reason that generalized blastomycosis followed cutaneous blastomycosis of seven years' duration, and also from the fact that this case, clinically and at autopsy, was diagnosed as tuberculosis, later investigation proving, however, its correct position, while Gilchrist's case was one of only moderate infection and the patient recovered.

In 1903 a typical case was reported by Dr. Miller and myself, this case having occurred in the practice of Drs. Hyde and Montgomery. It was through the study of this patient's symptoms that we have since been able to recognize the disorder. In this case the trouble began in the chest. There was present cough with moderate expectoration, irregular temperature, emaciation, great loss of weight, marked prostration, and very large numbers of subcutaneous abscesses and nodules, and cutaneous ulcers; in fact, a typical picture of a well marked case. In this patient tuberculosis was positively ruled out by animal experiments and otherwise.

In 1904, a case was reported by Dr. Cleary from the County Hospital in which a diagnosis was made postmortem. The interesting features of this case were: The demonstration of blastomycetes in the myocardium and suprarenal capsules and the presence of extensive amyloid degeneration.

In 1905 another County Hospital case was reported by Dr. Eisendrath and myself. The new features of this case were the demonstration of blastomycetes in the sputum for the first time, the presence also of blastomycotic spondylitis and

the demonstration at the autopsy, by Drs. LeCount and Meyer of blastomycotic colitis and blastomycosis of the cerebellum. Later in this year Dr. Bassoe recorded a case in which bone lesions of great interest were demonstrated. This patient, in addition, had double psoas abscess and extensive amyloid degeneration.

In 1906 cases were reported by Drs. Irons and Graham and Drs. Hektoen and Christianson. The two cases of Drs. Hektoen and Christianson were interesting from the standpoint of acute onset in both instances. One of these late in the disorder showed tubercle bacilli in the sputum.

In 1907 Coley reported a typical case, under another name, however.

Dr. Herrick reported one of extreme interest. This patient was under the care of Dr. Garvey and the diagnosis of systemic blastomycosis was made by Dr. Hyde. In this case the patient had extensive blastomycotic pyemia. Some of the abscesses contained as much as a liter of pus. There was great emaciation and it appeared that the patient was doomed. After much treatment here she was advised to go and was taken to California, where she gave up medicine, embraced Christian Science, and recovered. On her return to Chicago I was astonished to see the patient in such good health, but I feel sure that she is now convinced that it was the change of climate with its attending benefits that did the good and not the new method of treatment.

In this same year Dr. Montgomery reported an interesting case in which the organism was markedly virulent. Animal experiments in this case were highly successful.

Concerning investigation to ascertain the source of the organism, I might say that as long as six years ago Dr. Hyde suspected that this organism might come from barns and manure piles, and accordingly he and his associates investigated several such places. Five years ago the apartments occupied by a systemic case above referred to were examined and it was found that although the patient's room was dry and the surroundings quite good there happened to be a manure box beneath the window. As we were not permitted by the person occupying the house (the patient having been sent to a sanitarium), to place tubes in the window, we visited the place about 10:30 one evening, inverted the tubes beneath the window, suspended them there over night, removing them at 5:30 the next morning. A large variety of molds were thus obtained and sent to Professor Coulter of the department of botany of the University of Chicago, and I show you to-night drawings of the organisms he forwarded to Dr. Hyde, which were very much like the organisms found in this case. However, as they were not found to be pathogenic, the subject was dropped. We have investigated many outside sources in a similar manner without success. I visited also the home of the patient recorded by Dr. Eisendrath and myself, in order to bring him back to the hospital for further investigation. His home was found to be unhygienic in the extreme.

In the case reported by Dr. Herrick, the social position of the patient was of the best, as were her home surroundings.

Taken as a whole, these cases resemble tuberculosis and syphilis. Of course, pyemia is suggested, but a number of these cases are really blastomycotic pyemia. It is only by taking the picture as a whole and carefully weighing all the circumstances that one can be reasonably sure as to the diagnosis. At the present time it is impossible to give a symptom complex which fits all cases. In some of the very severe cases the disease is likely to involve every organ and tissue of the body, consequently there will be groups of symptoms presented in these various organs. At present, however, it seems that the clinical symptoms as a rule are not proportionate to the marked findings at the autopsy. For instance, in certain cases, only moderate clinical findings referable to the lungs were noted while at autopsy marked destructive effects were found.

That these cases may closely resemble syphilis was emphasized within a few days when through the courtesy of Dr. Hyde I saw a generalized case of syphilis which was with difficulty differentiated from systemic blastomycosis. The subcutaneous nodules in syphilis, however, appear more indolent and do not contain the pus found in blastomycotic nodules. It appears that the gummatous lesions

contain rather products of degeneration than of suppuration, and a part of these lesions do not break down at all. The pus in the subcutaneous lesions of blastomycosis is often streaked with blood, as is also the sputum. This seems to be a characteristic of the disorder.

Cases of tuberculosis also resemble blastomycosis, but again, we have peculiar abscesses in the latter disease with their specific contents, which do not occur in the tubercular process, and tuberculosis is in all probability more indolent.

Concerning the onset of blastomycosis, it may be acute or slow. The onset was very rapid in the cases of Hektoen and Christianson. In some patients cutaneous blastomycosis precedes systemic infection, and in others the reverse conditions are found. In some generalized cases typical lesions of cutaneous blastomycosis were present while in others there was none. In fact, one patient had no cutaneous lesions. The absence of typical cutaneous blastomycosis does not negative the diagnosis, for the Wein lesions may or may not be present.

A few of the most marked and typical symptoms are the following: There is commonly emaciation, weakness with prostration and rapid loss of weight; the temperature is erratic, varying from 99 degrees to 103 degrees—in one patient it was subnormal, while under observation; the physical findings relative to the lungs are commonly moderate; cough occurs in a certain percentage of cases, and expectoration is usually more abundant than the cough seems to warrant. We have found at times large quantities of hemorrhagic sputum where there was very moderate cough. Hoarseness has occurred in some cases, due to involvement of the larynx with the disorder. Albumen and casts are occasionally found. Edema of the extremities and face has occurred, as has also diarrhea, and multiple arthritis. Adenopathy may be present; it is not, however, so characteristic as in coccidioidal granuloma occurring in the far west. Pain may or may not be present. It occurs in some to a marked degree. Some of the abscesses and ulcers are very tender. Night sweats occur in a certain proportion of cases, but with nothing like the regularity they do in tuberculosis. The patients were all more or less anemic, and in some leucocytosis occurred, but differential counts have been made only in recent cases.

The organisms of blastomycosis have been found in the blood, sputum, the urine, and fecal matter. They have been demonstrated by culture from the blood in two cases; in the first by Busse and Buschke, and in the second by Dr. Stober in one of his cases to-night. The organisms, however, have been seen by other observers in the blood vessels or organs examined after death. In the two cases in which they were found in the urine, both Dr. Stober's, they were due to the involvement of the prostatic gland.

Finally, to sum up in a word, if a given patient shows evidence of generalized infection which apparently resembles to a certain extent either syphilis or tuberculosis, but is not quite typical, especially if there is an irregular temperature, loss of weight, emaciation, associated with subcutaneous abscesses and nodules, and cutaneous ulcers, generalized blastomycosis should be strongly suspected.

Dr. H. T. Ricketts:—It is probably correct to consider that the organisms of systemic blastomycosis are the same as those of cutaneous blastomycosis. There are many examples in which primary systemic blastomycosis has resulted in cutaneous metastases; and, conversely, the primary cutaneous disease has also resulted in generalized infection.

The organisms which I have studied, for the most part, were obtained from cases of cutaneous blastomycosis, chiefly from dispensary and private cases of Drs. Hyde and Montgomery. I have observed several organisms from cases of systemic blastomycosis within the past two or three years, and have found that they correspond to one of the types cultivated from cases of the cutaneous disease. Several years ago, on the basis of a study of the literature and my own observations, I divided the organisms into three groups. The first was called the yeast-like, or blastomycetoid organism, the term being employed because of the general impression that the word blastomyces refers to an organism which proliferates only or chiefly by budding of the parent cells. Organisms of this type were obtained by Busse and by Curtis from cases of generalized infection, and

they called the disease *saccharomycosis hominis*. Similar organisms were obtained from cases of blastomycetic dermatitis by Hektoen, Hessler and by myself from an infection of the lip occurring in the practice of Dr. F. H. Montgomery. In so far as I know, it has not been found in systemic infections in this country. It grows with a soft pasty surface, and when first cultivated infiltrates the substratum of solid media. It may lose this property in time, growing almost exclusively on the surface, from which it is easily removed. It shows some variations, however, and in the course of time and on proper culture media may grow with a more or less folded surface and send short spikes into the air. When grown in liquid media it forms a granular precipitate which sinks to the bottom, leaving the overlying fluid clear. It ferments dextrose with the production of alcohol and carbon dioxide. It kills mice within a few days of inoculation.

The second type of organism was called *oidium-like* because of its marked disposition to grow in the form of segmented chains, the elements of which eventually separated, giving rise to new individuals which again formed chains and divided as before. This is the most striking characteristic of the members of the genus *oidium*, although they also reproduce by budding. Biologically it differed from the other strains studied in that it fermented glucose with the production of acetic acid. On solid media it penetrated the substratum, and the surface instead of being smooth and white was of a dirty appearance and greatly folded. Occasionally the appearance was that of a coil of tangled earth-worms, the strands often running parallel to each other. In bouillon a dense pellicle was formed on the surface.

The third type was called *hyphomycetoid*, because of its close resemblance to some of the *hyphomycetes*, and it is curious that nearly all the organisms recently cultivated from cases of blastomycetic dermatitis and systemic blastomycosis, belong to this type. This is the case with those demonstrated to-night. The most characteristic feature of this organism is its moldy surface, which first appears after some days of growth, and which may develop to such a degree that the whole interior of the culture tube is filled with it. It infiltrates the substratum intimately and produces no soft surface growth, under ordinary conditions. The aerial hyphæ sometimes produces lateral conidia in abundance, but this is more or less of an irregular feature, which may not endure permanently with any of them. It does not ferment any of the sugars which I have tried and it differs from the members of the first two groups in this respect. It is pathogenic to guinea-pigs, although comparatively large doses are required to produce generalized infection. For this purpose it may require as much as 0.2 gram of moist culture, the animals dying in from fourteen to forty days, when the injections are intraperitoneal. When the inoculations are subcutaneous, I have observed nothing more than localized abscesses.

This organism has several methods of proliferation. Budding occurs both in tissues and cultures; in cultures *oidium-like* chains are formed, and in addition lateral conidia are snared off from the chains which grow in the substratum, and are produced in the aerial hyphæ.

Hence, groups one, two and three form an ascending scale in regard to complexity, and it is apparent that a satisfactory classification presents difficulties. Since all of them have the power of forming *oidium-like* chains, and since *oidia* are known which produce aerial hyphæ, I came to the conclusion that the whole group found its generic place with the *oidia*, and that the individuals showed such differences as justified their separation into the three species mentioned.

One can hardly speak of systemic blastomycosis without considering also the coccidioidal granuloma of Ophüls and Moffitt, which was formerly considered as a protozoic disease. In a comparatively recent paper Dr. Hektoen brought out the essential differences between blastomycosis and coccidioidal granuloma. There is one decided difference between the organisms of the two diseases, in that the fungus of coccidioidal granuloma appears to proliferate in the tissues only by a process of endospore formation, whereas the fungi of blastomycosis proliferate in the tissues, largely, if not entirely, by the budding process. As to whether blastomycetes may in certain instances proliferate in the tissues by endospore

formation, is still somewhat of an open question. There is some reason for believing that this is the case, especially since LeCount and Myers found bodies resembling endospores in the cerebellum in a case of systemic blastomycosis. The question, however, needs further study.

A second difference concerns the pathologic anatomy of the two diseases, necrosis and caseation apparently being much more prominent in coccidioidal granuloma than in blastomycosis.

It is doubtful if the organism of coccidioidal granuloma is sufficiently independent in its characteristics to justify separating it from the groups involved in the production of blastomycosis. Endospore formation is certainly a distinctive feature, but it is not yet certain that "blastomyeetes" may not also produce endospores under suitable conditions. Ophüls inclines to this view also, and applies to the organism of coccidioidal granuloma the name of *oidium coccidioides*.

The members of the Cook County Hospital staff who have been so keen in the discovery of these cases and in following them up deserve a great deal of credit for their work. The number of cases which they discovered in such a short time is nothing short of startling, and must excite again the oft repeated query as to whether we are evolving a new disease which is gaining an increasing number of victims, or whether we are simply learning to recognize a malady which has had a long existence.

Dr. Edwin W. Ryerson:—This case of blastomycosis which occurred in my service at the County Hospital, interested me very much. After this remarkable paper which we have heard to-night, it can hardly be thought that a man could see a case develop under his nose and not realize what was happening. But I had to be led up to each of these cases and to be shown that they were instances of blastomycosis. Although they had been under my care for many months, it never entered my head that blastomycosis, as studied and described by the dermatologist, but which did not have any particular bearing on orthopedic surgery, could produce such lesions.

A case which was reported by one interne started in the fibula. I think it was the third case, which seemed exactly like a typical acute tuberculous epiphysitis of the lower end of the fibula, with stiff knee on one side from a chronic, well-healed tuberculosis, and one or two skin lesions, which did not mean anything to me. It developed until these abscesses appeared subcutaneously and made the case a perfect picture.

The case with a pulmonary onset and spinal lesions simulating Pott's disease interested me very much. The man had had no cutaneous lesions whatever when he entered the hospital, and that was many months after he began to have cough and pains in his back. He was brought to my office shortly before his second entrance to the hospital, with typical Pott's disease in the high dorsal region. He had lung lesions which were sufficiently severe to be recognized, and he had unquestionably Pott's disease of the spine, so far as I could determine. As time went on in the Cook County Hospital, paraplegia developed, and he was put in the room which the first blastomycotic patient of my service had occupied, and in the course of time, a month or two, or, at least, three weeks after his admission to that room, his case was diagnosed as one of blastomycosis. Whether this disease be contagious or not, I do not know. When I first saw him I can not recall his having had a single cutaneous lesion, but he had many of them before he died.

The Chicago Medical Society should be proud of its members who have correctly described so many cases and have suggested means of preventing any future cases. If Dr. Stober's theory be true—and it seems plausible—a coat of whitewash in all cellars where fungi or molds exist would prevent any further trouble.

Dr. Stober (closing the discussion):—The possible contagious character of this disease was not touched upon in my paper because nothing positive has as yet been determined. In the laboratory, during the study of the organisms, the bouillon cultures made from the blood were accidentally broken in the presence of myself and a visiting physician. The characteristic musty odor was very pro-

nounced and quite irritating, and although the nares and pharynx were immediately cleansed, a slight pharyngitis was felt the same evening. The physician mentioned reported the following afternoon that during the night he had been taken with chilly sensations, fever, and marked irritation of the pharynx and bronchi. The sputum was distinctly purulent, but no organisms could be found in it.

Impressed by the possibility of such an infection, examination, microscopic and with cultures, was made of the expectoration of seventeen individuals who were suffering from mild inflammatory conditions of the respiratory tract, and who directly or indirectly had come in contact with the case in the ward. In none of these were the blastomycetic organisms demonstrated. Further investigations of this subject are in progress.

Regular Meeting, Jan. 29, 1908.

A regular meeting was held Jan. 29, 1908, with the president, Dr. Henry B. Favill in the chair. Dr. J. Rawson Pennington described an Improved Technic for Ligation of Appendiceal Stump within the Cecum. Discussed by Drs. Robert T. Gillmore, Wm. Cuthbertson, and the discussion closed by Dr. Pennington. The next order was a symposium on syphilis. Papers were read as follows: 1. The Newer Investigations Regarding the Etiology of Syphilis, with Demonstrations, by Dr. F. Robert Zeit. 2. Remarks on the Diagnosis of Cutaneous Syphilis, with Lantern Slides, by Dr. Frank Edward Simpson. 3. Some Important Points in the Treatment of Syphilis, by Dr. Joseph Zeisler.* The symposium was discussed by Drs. M. Herzog, Wm. J. Butler, L. E. Schmidt, and in closing by Dr. Zeit.

DISCUSSION ON THE PAPER OF DR. PENNINGTON.

Dr. Robert T. Gillmore:—Dr. Pennington presented the same method or device about two or three weeks ago, and it was criticized on account of the difficulty of technic, and I do not object to it so much for that reason, but I do principally on account of its not being an aseptic technic. I do not think it is a good plan to introduce a needle within the cecum and run the chance of infection that must necessarily follow, especially by a long suture that must be handled and will necessarily soil the field of operation. It is a practical impossibility to utilize this without infection, and even though they were to invaginate the stump afterwards the danger would still be present. I think the methods of late that have been devised for closing the appendiceal stump are more to avoid entering the cecum—in other words, not to invaginate it or to put a tobacco pouch suture around the head of the cecum for fear of contamination by entering bowels with the needle and suture, but to tie it off, crushing the stump, and avoid introducing a needle within the cecum. The peritoneum will handle a limited amount of infection, but it is better to avoid a technic that will test its ability.

Dr. William Cuthbertson:—Dr. Pennington is to be congratulated upon having devised a very ingenious method of treating the stump of the appendix. I am sure you will pardon me if I criticize his operation somewhat adversely.

The things to be desired in an operation are, first, simplicity of instruments, and, second, ease of execution. The very complicated needle which Dr. Pennington has shown us this evening makes the surgeon add to his armamentarium. The difficulty with which Dr. Pennington threaded the needle in this somewhat uncertain light would serve to condemn it in the eyes of the general surgeon, because it not infrequently happens that an appendiceal operation has to be done in an emergency with the light of an oil lamp, or may be with the light of a candle, which would render it more difficult to thread the needle than in the light we have here.

The next objection which would occur to me is that which Dr. Gillmore has pointed out, namely, the puncturing of the lumen of the bowel by the needle. Anything which adds to the danger of infection in these operations makes the method undesirable. There are so many methods of treating the stump of the

* For text of Dr. Zeisler's paper see p. 411.

appendix, without puncturing the lumen of the bowel, that it is unnecessary to adopt any puncture method, to my mind. I am under the impression that Dr. Pennington was led to devise this operation on account of the number of cases of postoperative hemorrhage which have been reported following appendiceal operations. These postoperative hemorrhages have occurred almost without exception in cases where the stump of the appendix has been inverted into the cecum. In these cases of inversion, I believe it is not customary to put a ligature around the appendix itself, but the lumen of the appendix is enlarged by means of a forceps, and the stump turned right into the cecum, and then buried either by means of a purse-string suture or by Lembert sutures. The best method of treating the stump of the appendix is that in which the ligature is thrown around the base of that organ, thereby securing all blood vessels, and rendering the danger of postoperative hemorrhage *nil*. Finney's operation is one of the best of this kind in which the base of the appendix is first encircled by a ligature, then the appendix crushed with a hemostatic forceps, and this forceps worked up and down in order to expel the contents of the appendix into the cecum. Either a clamp or ligature is thrown around the appendix one-eighth of an inch or so away from the proximal ligature, and then the appendix is amputated. The stump is next sterilized thoroughly, or as thoroughly as possible, and invaginated either with a purse-string suture or by means of a Lembert suture.

It would seem to me, however, from the experience I have had in the treatment of the appendiceal stump, it is very important to remember thoroughly the blood supply of the appendix, as we know it may be supplied either by one, two or three arteries. It is a simple matter, before throwing a ligature around the base of the appendix, to examine the blood supply, see all the vessels we have to ligate, and then by means of a No. 1 dry heat catgut ligature effectually secure these vessels. It does not make much difference what steps are pursued afterwards in the amputation of the meso-appendix. After securing the blood vessels thoroughly by means of this ligature without crushing, but simply amputating the appendix close to the ligature, the interior of the stump can be thoroughly disinfected with pure carbolic acid and the material which is contained in the stump wiped out with a sponge saturated in alcohol; then a purse-string suture can be thrown around the stump at some distance from the appendix, and the stump invaginated into the caput coli. After the purse-string suture is tightened, one or two Lembert sutures can be introduced into the cecum and the stump and the ligature thoroughly buried out of sight. The material used to secure the blood vessels should be dry heat catgut that is absorbed in a very few days, and on account of the method of invagination of the stump, any material which may possibly have been retained there will empty itself into the cecum. By the adoption of this method operative hemorrhage is absolutely prevented; the danger of infection is reduced to a minimum, and to my mind it is the safest way of disposing of the stump of the appendix in these operations.

Dr. Pennington (closing the discussion):—With reference to the danger of infection, which has been referred to by both Dr. Gillmore and Dr. Cuthbertson, I will say that I have asked some of our leading surgeons here in Chicago concerning that point, and they have looked upon it as *nil*.

With reference to the method described by Dr. Cuthbertson, I am not familiar with it. I am not doing appendectomies. I devised this needle, when it occurred to me, and have presented it to you for what it is worth, whether that be much, little, or nothing, and it may be the means of suggesting something else that may be of great benefit. I simply show you the needle and how it is to be introduced, and it is certainly very simple. It is not complicated. It is an easy thing to do. In fact, anybody can ligate the appendix in the manner I have shown you.

DISCUSSION OF THE SYMPOSIUM ON SYPHILLIS.

Dr. M. Herzog:—About a year ago Dr. Schmidt and I presented at a joint meeting of the Surgical and Urological Societies a report on examinations of primary and secondary lesions for the presence of the *Spirocheta pallida*. I then cited the opinion of some of the later German workers, that those absolutely

differential morphologic features which had been claimed for the *Spirocheta pallida* in the earlier publications of Schaudinn and Hoffmann could not be upheld, but that, on the one hand, the *Spirocheta pallida* varied a great deal, so that we do not always find a typical picture. And, on the other hand, we may be able to find spirochetæ in lesions not syphilitic which look very much like the *Spirocheta pallida*. To illustrate that point, I presented a number of microphotographs which I am going to show again to-night. Dr. Zeit has practically done the same thing, only on a more elaborate scale. He has shown you a number of microphotographs and lantern slides demonstrating that very point.

The first question which ought to be discussed is, Can we find in primary and secondary syphilitic lesions spirochetæ which, on the whole, and perhaps in the majority of individuals answer to the description given by Schaudinn and Hoffmann? This question, I am prepared to answer with, Yes. We can find in the vast majority of cases of primary and secondary lesions, not, however, the tertiary lesions, such spirochetæ. I know there are men in this city who have been very much disappointed in searching for spirochetæ, and they have not been very successful. The most important element is not only a knowledge of the spirocheta, but proper staining methods, etc. There was a time when I could say I found spirochetæ in most cases of primary and secondary lesions of syphilis, that is, in August and September, 1906, when I practically did not do anything except to hunt for them all day, and it was a frequent thing for me to spend six and eight hours a day on a single case, and then I could find them. After September, 1906, when I could not devote as much time to the search for spirochetæ, I found them only in a moderate number of the cases examined. I remember a few cases of Dr. Corbus', which I examined recently, spending over three hours in each one of three cases, and I was able to find them only in one case.

Dr. Zeit also presented a case here to-night where he demonstrated spirochetæ in a case of gangrene of the lung, some of which are practically indistinguishable from the *Spirocheta pallida*. One of my earliest experiences was along the same line. It was an obscure case which occurred in the service of Dr. Frank Johnson at the Michael Reese Hospital, in which there was a consolidated focus in one lung, attended with cough and expectoration. Sputum was sent down to the laboratory a number of times for examination for tubercle bacilli. The internes invariably reported being unable to find tubercle bacilli, and one day I took a look at the specimens myself and saw some spirochetæ which were stained faintly blue and which on being later stained with Giemsa showed in pink. Some of these I could not distinguish from *Spirocheta pallida*. I thought the patient had possibly tertiary syphilis with a lot of spirochetæ in the sputum. Syphilitic infection, however, was denied, but syphilitic treatment was instituted and the spirochetæ did not speedily disappear. However, the patient got better finally and the spirochetæ disappeared more and more.

Since then I have seen two similar cases of obscure lung infection, with some consolidation, with a suspicion of tuberculosis, which could not be verified, with spirochetæ in the sputum, very fine, slender, corkscrew organisms, which could not be distinguished from *Spirocheta pallida*. I have found spirochetæ of that type in the smears taken from the vagina of female children. We examine every female child which enters the Michael Reese Hospital for gonorrheal infection, in order to protect the patients in our wards from this infection, which has occurred in some of the hospitals in town in an epidemic form. I found in one of these examinations spirochetæ which were indistinguishable from pallida, but which, however, are not to be looked upon as pallida, because there was no cause for suggesting a luetic infection. I have also recently found them in the stomach and intestines. So I must take the standpoint that what has been described as *Spirocheta pallida* has no such absolutely characteristic morphologic characters that one can be absolutely certain in differentiating it from other organisms of the spirocheta type. Who would to-day think of giving morphologically a clear distinction between typhoid, paratyphoid, colon bacilli, the high cholera bacillus, the bacillus of Shiga, the bacillus of Flexner, etc. We know they are so much alike that they can not with any degree of certainty be distinguished morphologically,

and it stands to reason to suppose that there must be spirochetæ which are so much like to pallida that they are indistinguishable morphologically. There are spirochetæ which can not be distinguished from *Spirochetæ pallida*.

As to the silver spirocheta, here we are confronted with other difficulties. We find in a number of cases, as has been pointed out by Dr. Zeit, of congenital lues an enormous number of spirochetæ. But the strange thing is, if those are the cause of syphilis, and perhaps they are, why is it we do not find them in these tissues, the histologic lesions so characteristic for syphilis? I have examined cases where we find large numbers in the liver and kidney, yet there are no characteristic histologic lesions of the disease; there is no trace of that infiltration which we find in acquired syphilis and which is so characteristic. When I saw, first, a case of congenital syphilis in a still-born child, in which there was a large number of these spirochetæ, I formed a hypothesis. I thought that these spirochetæ could not have multiplied in such enormous numbers in a living child, because if they had there should be some histologic expression of the damage done by this pathogenic micro-organisms. I supposed that the child had been dead *in utero* perhaps ten days or two weeks, and that its dead body formed a very excellent culture soil for the multiplication of the spirochetæ. However, the next case I examined was that of a child which lived one day. Its organs showed the most beautiful spirochetæ I ever saw, and my hypothesis was, of course, exploded. Then, again, I had a case which I thought would surely demonstrate favorably whether these spirochetæ are tissue elements or whether they are really foreign micro-organisms. A young man, who had secondary syphilis, married a young woman. He infected her, and she developed a primary sore on the tongue. After about six weeks there was a most violent outbreak of secondary skin lesions in her. She had uncontrollable vomiting, and after consultation with a number of physicians it was thought best to produce an abortion. This was done. As I was aware of the facts in the case, I procured the specimen at the bedside. It was at once dropped into a strong formalin solution—the placenta and the whole embryo—and I had a large number of serial sections made of the maternal and fetal portions of the placenta, but have been unable to find a single spirocheta.

With regard to observations made on animals, I will say that I was able to obtain material from the stockyards through the kindness of some of the government inspectors, such as a macerated sheep and a macerated hog embryo. A careful search was made for spirochetæ in the tissues of these animals, but the efforts were unsuccessful.

To summarize, again, as far as *Spirochetæ pallida* are concerned, they vary much in shape, they can be found in primary and secondary syphilitic lesions, but they have no absolutely diagnostic morphologic features.

It appears to me all that we can say to-day is that the etiologic relation of the spirocheta of Schaudinn and Hogmann, as found in primary and secondary syphilitic lesions, is not yet established beyond doubt and it is a question of great difficulty to decide the proper place in the etiology of congenital syphilis to the so-called silver spirocheta of Levaditti.

Dr. William J. Butler:—While we are still awaiting final proof of the *Spirochetæ pallida* as the cause of syphilis, we have in the serum diagnosis something definite, something positive, the value of which has passed beyond all doubt. The Wassermann reaction has placed syphilis within the category of serodiagnosis on as sound a footing as typhoid fever was placed by Gruber and Widal. Its worth has been confirmed by such eminent investigators as Levaditti, Morgenroth and others.

Subsequent work by Citron and by Fleishman and Butler has shown that the scope of this reaction extends beyond the field of diagnosis, that it is a valuable therapeutic index and prognostic aid. It revealed itself in the course of their work that the results of the reaction were greatly influenced by previous treatment and different methods of treatment. It was found that syphilitics who had been well treated, especially those who had been recently well treated, often failed to give a positive test. It was also observed that cases that had been vigorously

treated by immunitions often failed to give the reaction, whereas those treated by injections more frequently gave a positive result.

In our experience the test never fails where manifestations are present and is often found where they are absent.

It enables one to demonstrate active syphilis when manifestations are absent and has thus placed within our range the possibility of protecting the syphilitic patient from disease of the nervous and cardio-vascular systems, hepatic lues, etc., when to all outward appearance his infection is quiescent (note case of cerebral syphilis cited by Dr. Zeisler) and also to protect him from an imminent outbreak of his disease.

In the presence of questionable symptoms it admits of positive differentiation. It has clinched the association of syphilis with progressive paresis and tabes in that the antibodies can be demonstrated in the spinal fluid and serum of the vast majority of such cases. Their demonstration in the spinal fluid of paretics has suggested to Wassermann the possibility of their origin in an excessive antibody production on the part of the nervous system, leading to changes resulting in the clinical symptoms of progressive paresis. We have in this serum diagnosis of syphilis a positive test for syphilis and an invaluable index for specific treatment.

It is a well-recognized observation that those cases of syphilis that run a mild course and clear up early are often subsequently the subject of tabes or progressive paresis in contrast to cases of apparently greater severity that are as a result subjected to repeated courses of treatment. I say apparently severe, because it is not improbable in many of what might be termed mild cases the syphilis exhibits a selective action for the nervous system.

The recurrence of immune bodies should be watched for in the syphilitic instead of awaiting the development of evident manifestations or the later development of so-called parasymphilitic diseases, all of which might be obviated by the regular and methodical use of this method as an index of treatment.

In the brief time allotted for discussion I have avoided taking up the reaction itself, which is quite complicated, but will mention the principle on which it rests. It depends on the fact that when the antibodies in the body fluids of the syphilitic come in contact with their antigen a second substance contained in the fluids and known as complement is anchored. This anchoring of complement can be demonstrated by adding an inactivated hemolytic system. It is true the test is complicated and its performance consumes much time, but no labor is too great where the results are so valuable.

The chief difficulty in the matter is obtaining organs of dead syphilitic newborn at any time from the fourth month of fetal life on. The organs used are liver and spleen, which must be preserved in the fresh state on ice until used.

Dr. L. E. Schmidt:—If I understood the last speaker, Dr. Butler, he said that the so-called Wassermann serum diagnostic test is positive. I would like to say that Wassermann, before the Hygienic International Congress, held at Berlin, last September, stated it was not a positive test. All he claims is that it is probably the most reliable known test of this kind for syphilis at the present time. However, he does not want to be misunderstood in regard to its being known as a positive test for the presence or absence of syphilis. He advocates further investigations, such as Julius Citron, of Berlin, has published, in order to show the scientific accuracy and the clinical value of this test.

Dr. William J. Butler:—To correct a wrong impression I may have given, I will say that this test is positive in the sense that a Widal test for typhoid is. A negative Widal does not exclude typhoid, but a positive Widal enables us to say that the patient has or has had typhoid.

Dr. Zeit (closing the discussion):—In regard to the remarks made by Dr. Butler I wish to add that I appreciate very much his excellent work on the subject of serum diagnosis, but I must subscribe, however, to what Dr. Schmidt said, namely, that Wassermann never claimed that this could be used as a practical and positive test. It was simply an interesting laboratory fact that antibodies could be demonstrated; nor does the presence of these antibodies prove or disprove the *Spirocheta pallida* as the etiologic factor of syphilis. I had not time to read that

part of my paper. I have given Dr. Butler credit for his work. There is no question that antibodies can be proven in cases of syphilis, in cases of progressive paralysis, and in cases of tabes, and, therefore, it needs further work to say whether this test can be applied in a practical manner. I have in my paper a few references which speak against it. Weil, of Vienna, reports that he gets positive reactions with tumor extracts, and there are other investigators who claim positive reactions with tissue extracts of non-syphilitics. We all realize the great difficulty of the test, and how exact everything must be done, and I believe it will take much further work to say whether, after all, Dr. Butler is not right, that it is a test which can be used for diagnosis.

In regard to the difficulty of finding the spirocheta that Dr. Herzog spoke of, I think it is well for us all to understand that we may not be able, even in a well-stained Giemsa smear specimen, after hours of examination, to find spirochetes during the daytime, in diffuse daylight. If we examine the specimen in the evening with a Welsbach light we find them without difficulty.

THE USE OF THE PHARMACOPEIA AND FORMULARY BY THE PHYSICIAN AND PHARMACIST.*

GEO. P. MILLS, PH.G., EVANSTON, ILL.

The lack of that respect to the physician and pharmacist which is due because of their higher education and the deplorable condition existing to-day in the practice of medicine and pharmacy are agitating some members of each profession throughout the country. The compensation they should receive, and the opportunity to live, to say nothing of existing, are agitating every member of both professions. Individual commercialism is blameable to some degree, but proprietary commercialism is the octopus which has hypnotized the physician into being its advertising agent, without pay, duped the public in that they believe its products to be the standards, and squeezed the life out of the pharmacists.

It will require the combined, earnest efforts of all interested to dislodge this "dog in the manger." The schooling obtained each day must come from a very much higher source, and not from the printed matter distributed so freely by this octopus, nor from an unsuccessful practitioner, the detail man, whose only attainment might well be described as "the parrot to his majesty the proprietor." The physician on the firing line, the pharmacist, the chemist and the pharmacologist at the magazine, must furnish the data. This information, whether relating to new or old remedies, should be compiled and distributed at frequent intervals by a competent committee, not salaried by or interested in the commercial marketing of drugs.

The commercialism of this octopus is blameable to a great degree for the existence of that awfully funny joke, "just as good," that all too common expression, "up to date," which obliges the pharmacist to load his shelves with duplicates; that nasty word so often mentioned, "substitution," and, finally, that two-edged sword, dispensing by physicians versus counter prescribing by pharmacists.

It is a known fact that there are physicians and so-called doctors, as well as pharmacists and so-called druggists. What respect from the physician is due to a "druggist" who buys from the jobber paragoric, Syrup Hypophosphite Co. and a hundred such articles, not even knowing they are pharmacopeial or formulary preparations? Still worse, he may not possess a copy of either pharmacopeia or formulary. What about respect for the higher education of a "doctor" whose cases are diagnosed by the patient and whose prescriptions are mostly proprietary mixtures? Is it to be wondered at that the public no longer recognize a difference between the actual physician and the man called "doc," or the pharmacist and the so-called druggist?

Closer acquaintance in the medical or pharmaceutical body, or between medical and pharmaceutical men, means that each individual who considers himself a teacher finds he is being taught. The physician whose theory does not come in

* Read before the Evanston Branch of the Chicago Medical Society.

close association with the pharmacist's practical experience, or the theoretical pharmacist who does not profit by the practical experience of the physician, is necessarily biased and short-sighted. Such men retard progress.

The necessity of making money enough to pay expenses and prepare for a rainy day and old age must be conceded. Consideration of this side of the subject requires no apology. Quite often the physician prescribes "Blank's Mixture," requesting that it be dispensed in the form of a prescription, or, better still, for the octopus "one original bottle," so that the advertising matter is passed to the purchaser without cost and the pharmacist can not "substitute." While waiting for this prescription (?) to be compounded (?) the messenger or patient employs his time reading the label on a duplicate bottle. He "draws his own conclusions." He doubts the physician's knowledge and the pharmacist's ability, and determines that he is quite as competent to prescribe and compound patent medicines. He decides that in the future he will save the physician's fee and buy direct. When that future time arrives we find that he has recommended this "prescription" to all of his acquaintances and that they have purchased the article through some wholesale friend or at a department store. The physician and pharmacist not only lose the respect rightfully theirs for higher education, but they are obliged to say farewell to their living expenses, which they must have, even though they make no use of the higher education. Is the practice of to-day a credit to our teachers or our alma mater?

Physicians and pharmacists belong to one family and they *must be made contented* members. Undoubtedly the first step to take is to get together. The pompous man from the firing line fares poorly when he attempts to give orders to the man in the magazine who knows it all and *vice versa*. Positively nothing can be done so long as our case is in the divorce court. Working solidly together, with a determination to win, can not help but bring success.

A few examples from the pharmacist's standpoint may not be considered out of place.

Three or four years ago Dr. ——— "prescribed" antikamnia and codein tablets for Mrs. A's neuralgia. Since then she has purchased "25c worth of Ak. & C. Tablets" many times. Has there been proper professional control of this patient while using a remedy supposed to contain acetanilid or phenacetin? Where does the physician's responsibility begin and end?

At least ten years ago another physician prescribed trional. It seems that all of this patient's friends are poor sleepers, for trional has become a household word and "we always keep it in the house." Do the physicians realize that many times the pharmacist is charged with counter prescribing when these friends call for trional?

Only yesterday a stranger, while selecting cigars, said, "By the way, I want you to fill this prescription." The "prescription" proved to be "Tono Sumbul Cordial, Warner & Co.'s, one bottle," which the customer read and returned to his pocket. He then ordered one bottle and, of course, will read the label, which states, "Tono Sumbul Cordial is a superb tonic and heart stimulant, promotes appetite, rest and sleep. Most palatable and contains not more than 20 per cent. of alcohol. Take a tablespoonful undiluted before meals or occasionally." It is supposed he will now fully understand his ease.

Here is where the physician does the advertising without pay and gets left all around.

In January of this year, when the National Food and Drugs Act went into effect, the formulas of the United States Pharmacopeia and National Formulary were made legal standards. This act has revived interest in medicine and pharmacology and furnished to us more guns and ammunition than we ever before possessed. If we fail to use these guns to good advantage we may not live to attend the funeral of the octopus.

The United States Pharmacopeia was first compiled by physicians about 1820 and is now revised every ten years by a committee composed of physicians, pharmacists, chemists and pharmacologists for the purpose of fixing standards for

strength, quality, etc., and giving directions for preparing medicines. No one doubts the wisdom of such work.

The National Formulary is intended as a stepping stone to the Pharmacopeia. The formulas are in very much the same position as the Methodist who is taken on probation. They may be probationers for some time, finally adopted and given their rightful place in the Pharmacopeia, or rejected.

The preparations of the Formulary are suggested by physicians' prescriptions and are intended to replace many of the proprietary preparations. By their use great confusion as to strength, dose, etc., is done away with. In comparing these preparations with proprietary articles it may be found that they are not flavored or colored so as to be exact duplicates. They are intended only as *standard, non-secret mixtures*, and it is to be hoped that they will be specified by every physician and manufactured by every pharmacist. There is no more necessity for a dozen preparations of Syr. Hypophosphite Co. than for a dozen paragogies, differing in color, strength and flavor. Most proprietary articles are simple mixtures, notwithstanding the gulling stories of "great discoveries," "wonderful manipulation" and "greater facilities" for manufacturing.

The Council on Pharmacy and Chemistry, as reported in *The Journal* of the American Medical Association, is doing a grand work in exposing the fictitious and deceptive nature of some of these preparations. Proprietary medicines produced by original and scientific research are of great benefit, but our laws should be revised so that only a deserving reward could be obtained for such production.

Take, for example, phenacetin and trional. There is surely something wrong when phenacetin, before the patent expired, wholesaled at \$1.00 an ounce, but after the expiration of the patent the price dropped to 33 cents an ounce, while the official preparation, acetphenetidin (which is identical with phenacetin), can be purchased for \$1.35 a pound. Trional, still benefiting from the patent laws, wholesales at \$1.50 an ounce, while sulphonethylmethanum, the official preparation and identical with trional, wholesales at 45 cents an ounce. Then, again, the price of sulfonal at \$1.35 an ounce can be compared with that of the official preparation, sulphonmethanum, at 38 cents an ounce.

Looking at another side of the subject, we find hosts of liquid antiseptics on the market. The physician supposes that the one he is perfectly familiar with can be obtained at any "up to date" pharmacy. This does not always follow. Do the physicians ever stop to consider the delay in delivery and the trouble and expense to which it may put the pharmacist in supplying this particular make? Has the physician considered it substituting when any one of the many *duplicates* has been dispensed? It is easy to conclude that the interests of the physician, pharmacist and patient will be best served if Liquor Antisepticus, U. S. P., is prescribed, dispensed and furnished to the man who pays the bill.

Physicians' charges should be in fact as well as in name for professional services. It is difficult for the layman to understand how the prescribing of patents, proprietary mixtures or tradename articles can be considered as such. It is absolutely impossible for a pharmacist to carry on business when he can make only merchandise charges for the services he renders. In explanation of this statement the following facts are given:

Many of the proprietary dollar articles are wholesaled at from 71 cents to 84 cents a package. The average cost of carrying on a drug business is 25 per cent. It will require but little figuring to find how these wonderful dollar money makers are squeezing the life out of the pharmacist. The 84-cent preparation actually costs \$1.05, and if sold at one dollar there is a *loss* of 5 cents on the transaction. If a necessary charge of \$1.25 is made, as is often the case, one can feel sure that he will be called robber.

It ill becomes us to find fault with the names hexamethylenamina, sulphonethylmethanum or sulphonmethanum. Why should it be considered more difficult to memorize these names than that of the old preparation, Liquor Arsenii et Hydrargyri Iodidi? It requires but little application to memorize such terms and there is no excuse for not doing so. The words are more than mere names. They really mean something to the intelligent man.

Referring to the use of the pharmacopœal and formulary preparations to replace proprietaries, the change must necessarily be accomplished by degrees. It will require some time for the pharmacist to find out which ones will be called for and to prepare for dispensing. It will probably require just as much time for the physician to become familiar with the subject. This matter of using standardized preparations has in a way been hurriedly forced upon us, and the plan followed in adopting revisions of the Pharmacopœia can be used. Generally there is no definite date when prescribing or manufacturing of the preparations of one revision can be stopped or the use of the following one commenced. The pharmacist may have on hand a quantity of some proprietary preparation. He should be expected to furnish the official as soon as his present supply is exhausted.

It is a pleasure at this time to read from an address given by George H. Simmons, M.D., General Secretary of the American Medical Association and editor of its journal.

"This is from a book written by Mr. Geo. P. Rowell, entitled 'Forty Years an Advertising Agent.' Mr. Rowell, as some of you may know, dabbled somewhat in the 'patent medicine' business himself. He is the one who created Ripans Tabules. In this book, by the way, he tells how he came to put this preparation on the market. In the chapter from which I shall quote he described the 'patent medicine' business in an interesting way, and tells of the fortunes that have been made and also lost. He has this to say about an 'ethical' proprietary that some of you may have heard about:

"We had a successful advertiser in Halifax, N. S., who sold a medicine known as Fellows' Hypophosphites that proved so good that some shrewd business men in the medicine trade who knew about it bought the trademark, incorporated a company with a capital of \$100,000, retained the original owner as manager, stopped all advertising except in medical journals, and thereafter pushed the sale only through the medical profession. I had information at one time of a young man who was heir to an uncle, recently deceased, and had come into possession of a certificate of stock of this company, of the face value of \$6,000, and made up his mind that, shrewd as the old gentleman was, he had, without a doubt, acquired trash in this instance, and I heard, further, that the young man began to think better of the doubtful asset, when one day a dividend check came; and when, at the end of a year, he realized that within the twelve-month that \$6,000 certificate had brought him \$9,000 in dividends, he began to revise his estimate of his deceased uncle's prescience in making investments.

"As a 'patent medicine' it was not a success, but as an 'ethical proprietary' it has been proving a gold mine. So since that time this medicine has not been advertised except to doctors through medical journals, has it? Look at the wrapper around the bottle, read the label on the bottle, notice the name blown into the bottle, and then will you doubt the statement of the average druggist when he says that nine-tenths of Fellows' Hypophosphites is sold over the counter direct to the public and that the doctors are responsible? What better method of advertising? And how easy! Newspaper advertising is expensive! It is cheaper to use the doctor."

DELAYED MENOPAUSE—REPORT OF A CASE.*

CHARLES J. WHALEN, M.D., LL.B., CHICAGO, ILL.

It is generally accepted that menopause begins with the cessation of menstruation or marked menstrual irregularities, and ends with the termination of varied disturbances incident to this period. There is no fixed age for change of life any more than there is for puberty; however, all authors agree that with the great majority of women menopause commences at the age of 45 and averages from that up to 50 years. Many assert that the menopause is later with married than with single women. The late Sir Andrew Clark was of the opinion that the tendency of civilization was to make the climacteric later, and his vast experience

* Read before the North Shore Branch of the Chicago Medical Society, March 3, 1908.

among the higher classes makes his opinion on such a point important. Although 45 years is given as the average age at which menopause takes place there is a very great variation in regard to time. The cessation of menstruation has occurred as early as 21 and as late as 61 years of age, but such cases are exceptional and may be looked upon as curiosities.

The following case is therefore of interest:

Mrs. M. S., Irish, aged 67 years, 4 months; weighs 225 pounds; looks quite young in appearance for her age. Heart, kidneys and liver normal; arteries soft, no evidence of degeneration. She does not wear glasses, sews a great deal and has no difficulty in seeing; is not fatigued after using the eyes continuously all day. Has a good appetite; no aches or pains. Has worked very hard all her life; never had any help in raising her family; husband was sickly for twenty-six years before he died and was an additional care to her. Patient claims never to have been in bed two days in succession in her life, not even when her children were born. On two occasions went after her own midwife after labor pains had come on, frequently washed the day before confinement and often the day following. Has been in Chicago forty-eight years, and during that time has not taken one drop of medicine.

The patient was married at 16 years of age, has had thirteen children and two miscarriages; youngest child would be 28 years old if living at the time this history was taken. The oldest child is 50 years of age and has two married daughters. Patient has two great grandchildren. Seven of her children are still living; first and second are still alive; third died when four months old; fourth, fifth and sixth are still living; seventh died of phthisis at the age of 25 years; eighth died when a babe; ninth still living; tenth died of phthisis at the age of twenty-five years; eleventh and twelfth still living; thirteenth died when two months old. Patient was 14 years old when she first menstruated and continued to do so with regularity up to five years ago, when she began to menstruate regularly every three weeks and continued to do so up to the present.

The age of cessation of the monthly flow is often upset by many pathological conditions; while marked variation in time is not incompatible with health, it should be noticed that when there is marked deviation from the average age of 45 years there is always a possibility of some morbid state being present which is the cause of the deviation. In this case an examination of the uterus revealed nothing pathological, neither was there anything pathological to be found three and one-half years after the above history was taken.

The instance above reported being a deviation from the natural course, is interesting, as medical literature does not contain, so far as I can ascertain, a report of a similar case.

34 Washington Street.

SURGICAL DANGERS IN ICTERUS NEONATORUM.*

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(Abstract.)

For some years it has been well known that there is extreme danger in operating on patients suffering from disease of the liver or gall passages with an accompanying jaundice, on account of the liability to postoperative hemorrhage or oozing of blood which can not be controlled. This condition does not obtain in all cases of jaundice; therefore, the time of coagulation of the blood should always be estimated before submitting any jaundiced patient to operation. The cause of this blood deterioration does not seem to have been settled definitely.

The author quotes various authorities giving theories as to the cause of blood deterioration in jaundice and gives the following opinion:

So far as I am able to form an opinion I am inclined to agree with Rywosch, that the non-coagulability of the blood is due to the influence of some of the bile

* Read at the South Side Branch of the Chicago Medical Society, Dec. 19, 1907.

salts which are introduced into the circulation in excess. In the case which I report the blood had an abnormal appearance, being thin and apparently of lower specific gravity than normal, and illustrates the necessity of a careful examination of the blood in all cases of icterus neonatorum before submitting them to operation. I wish to report the following case:

Baby R. was born on Nov. 1, 1907. The family history was good, except that about eighteen months before his birth I performed a cholecystotomy on the mother for an infected gall bladder. She made a perfect recovery and was in good health at the time of her conception of this child. The labor was a protracted one, the pains persisting for 18 hours. As the mother was becoming somewhat exhausted and the head was low in the pelvis, I applied the forceps and delivered her without anything untoward happening to either the mother or the child.

When the baby was a few hours old, jaundice made its appearance over the body generally. The third day the nurse called my attention to the child's difficulty in urinating, and on examination I found a tight, contracted prepuce. I also noticed at this time that the two points of the baby's face where the forceps had made pressure were still discolored much more than is usual. I ordered plenty of water to be administered in the hope of increasing the amount and frequency of the urine. As this did not produce the desired result, on the fifth day I decided to do a circumcision to relieve the urinary obstruction.

As the prepuce was tightly adherent I introduced the blade of a scissors on its flat between the foreskin and the glans, and then turning the blade upwards I made an incision through the skin and mucous membrane extending back of the corona. After separating the prepuce from the glans with a grooved director I trimmed off the dog ears and introduced a few interrupted sutures and placed a strip of sterile gauze coated with vaselin around the raw surface, with orders to change it every time the gauze should become soiled with urine.

More or less oozing kept up during that day and night, but was not alarming. The next day, however, it became much more profuse, and adrenalin hydrochlorid was applied locally with the effect of checking the hemorrhage for a time only. That evening I was called up and told the child was bleeding profusely, so I discontinued trying local applications and introduced a continuous suture of No. 00 catgut. This by producing a mechanical ischemia checked the profuse bleeding and only left one or two oozing points which did not cause any trouble. In this connection I should say there was no hemorrhage from the cord. Where these sutures were applied the skin and mucous membrane assumed a bruised, blistered appearance, so much so that I feared gangrene. The third day after operation the jaundice began to disappear and all the tissues assumed a more healthy appearance, the oozing having stopped entirely.

At this time the coagulability of the blood was estimated and found to be two and one-half minutes. The child made an uneventful recovery, the ecchymotic spots on the face clearing up coincidently with the jaundice. This child did not develop any temperature either prior to or during the course of the jaundice. It would, therefore, seem that the condition of the blood was not due to any infective process, but rather to some faulty proportion of the bile salts as described by Rywosch.

In conclusion, I would urge the necessity of testing the coagulability of the blood before operating in all cases of icterus neonatorum, as well as other cases of jaundice. In children when making a puncture to secure some blood, only a very fine needle should be used, and the puncture sealed at once with collodion.

THE MEDICAL COLLEGE IN RELATION TO THE NOSTRUM EVIL.*

BERNARD FANTUS, M.D., CHICAGO.

I believe we all agree that the root of the nostrum evil lies in improper and insufficient training in pharmacy, materia medica and prescription-writing in the medical schools of this country. Hence this point needs no further discussion.

* Read before the West Side Branch of the Chicago Medical Society.

It may be profitable, however, to inquire why the instruction in these branches, so eminently important to practical medicine, should have become so poor. That it has not always been so deficient is proved, it seems to me, by the fact that this nostrum evil is of comparatively recent origin. Why, then, while medical instruction has improved in almost all other respects, has it retrogressed in regard to materia medica and therapeutics?

The answer to this question lies in the great recent development of the subject. Fifty years ago, only two divisions of the subject had to be taught, namely, materia medica and therapeutics. Since then the new science, pharmacology, or pharmacodynamics, has arisen, and has developed to such an extent that it has become equal in importance to the other two. A great number of new drugs has been introduced, increasing the bulk of material to be covered by probably one-half. Over and above all this, non-pharmaceutical therapeutics, including hydrotherapy, electrotherapeutics, massage, and gymnastics, dietetics and climatology have become of such importance as to demand almost as much instruction as the subject of medicinal therapeutics itself. And yet in many medical schools the time allotted to all these subjects has not been increased; and they have still to be taught under the old headings, "materia medica and therapeutics." It is self-evident that, under these circumstances, thoroughness of instruction became impossible. Especially is the new science of pharmacodynamics so fascinating that it draws the attention of both teacher and students almost completely away from the much less interesting study of the drugs themselves and of their prescribing.

Thus, class after class of improperly prepared students were turned out of the medical schools. They probably understood the mode of action of drugs better than did their predecessors, but they did not know how to prescribe them. At the same time they faced the modern demand for elegance in medication. No wonder that they fell an easy prey to the nostrum vendor.

It is plain, then, that in order to weed out the nostrum evil, its root must be attacked. I do believe that the old-fashioned teaching of materia medica should be resumed and carried on, in addition to the teaching of pharmacodynamics. That short courses in pharmacy should be instituted, not in order to make pharmacists of the medical student, but in order to enable him to understand prescription writing better. The time allotted to the whole subject should be at least doubled, and probably trebled; and the work of instruction in it should be carried on throughout the four years.

There is, at present, a gratifying tendency in this direction. For instance, the medical school that I have the honor of being connected with, has increased within the last few years, the number of hours at the command of the chair of materia medica and therapeutics from 135 lecture and no laboratory hours to 252 lecture and recitation hours and 108 laboratory hours. However, a great deal of work in this direction still remains to be done. I realize, of course, that the propaganda for reform of the nostrum evil must also be carried on along other lines, most of which have already been mentioned by the previous speakers. I may, however, be permitted to briefly summarize what seems to me the complete program of action in this campaign.

1. Better instruction of medical students in pharmacy, prescription-writing and materia medica.
2. Reform the teachers of surgery, medicine and the specialties so that they will not undo the good work started by the teacher of materia medica.
3. Monthly medico-pharmaceutic conferences for the discussion and demonstration of the best methods of administering important drugs.
4. Missionary work with nostrum prescribing doctors by means of circulars, pamphlets and personal interview. This part of the work could best be carried on by the druggists, as they know best who prescribes the nostrums.
5. Cordial support of the Council of Pharmacy and Chemistry by not prescribing anything that does not meet the sanction of this council.
6. Boycotting of journals that carry the advertisements of fake nostrum manufacturers.

7. Official publication of a physician's edition of the United States Pharmacopeia and of the National Formulary.

M'LEAN COUNTY.

The March meeting of the McLean County Medical Society was held in the Unitarian Church at 8 p. m. March 5, 1908. As this meeting was of a special nature, all business of the society was dispensed with. Dr. Dan Millikin, Professor of Medical Jurisprudence of Miami Medical College, addressed the society and the invited public on "The Extra Professional Services of the Physician."

Dr. Godfrey, in introducing Dr. Millikin, took occasion to mention the founding of the McLean County Medical Society in March, 1854, at which time Drs. Worrell, Noble, Crothers, Rogers, Roe, Hoover, Parke, Elder, Espey, Stipp, Christ, Cromwell, Luce, and Freese were present. Dr. Parke, of Louisville, Ky., is the only one now surviving. This is the 540th meeting of this society, counting 10 meetings per year. Dr. Godfrey referred to this society as being the safeguard of the health of the community. He advocated a city inspector to prevent the spread of disease from infected and stale meats as well as from inferior food of all kinds.

Dr. Millikin spoke in emulation of the work of the medical profession, wholly outside their professional duties, showing that in science, art, philosophy, religion, etc., the physician has taken front rank. "Since the dawn of history no body of men have done so much for the measureable good of mankind as the physician." Beginning with Aristotle, called by Dante "The Master of Them that Knew," who was of a line of physicians who for centuries were the schoolmasters in all sciences, to Nestorius, whose followers, driven eastward to the Euphrates, fraternized with Mohammedans and Jews and translated non-medical classics into Arabic and allied tongues and thus handed on the light of science. Coming out of the middle ages into the era of discovery, Fernel, physician to Henry II of France, advanced northward until the polar star changed its place 1 degree. He measured his journey and demonstrated the size and rotundity of the earth.

Copernicus gave one-third his time to medicine, one-third to astronomy and one-third to canonical duties. He taught, in 1543, the sun was stationary and the earth and planets revolve about it, thus overthrowing the Ptolemaic doctrines of astronomy. Galileo was five years a medical student. He taught that the scriptures are for salvation and not to teach science.

Dr. Millikin spoke of Steno as a geologist, especially his work on fossils, of Dr. Lister, and of Dr. Getard's porcelain work in France. Agassiz, Paré, Darwin, Owen, Leidy, Huxley, Linnaeus, Boerhaave, Galvani, Volta, Lamarck, Hunter, Wallaston, Hare, Oversted, Thomas Young, Carpenter, Helmholtz, Liebig, Kane, Hayes, Nansen, Livingstone, Mungo Parke, and Emil Pasha were spoken of at some length, as well as Oliver Wolcott, Guillotin, Gattlin, Wood, Myer and others who take front rank among the great inventors, while Sir Thomas Browne, Oliver Goldsmith, Bedeous, Keats, John B. Brown, Dr. Holmes, Dr. Holland, Richard Grant White, Conan Doyle, and Weir Mitchell are conspicuous in literature.

Dr. Millikin closed his splendid address by saying: "When have all these debts been repaid? What first-class invention pertaining to our art has been perfected and turned over to the physicians? None. We have had to devise our sepsis and antiseptics. We devised our own hypodermic needles, our plaster dressings, our anesthetics. The debt to the physician for his services to the world outside of his immediate profession has never been paid."

F. H. GODFREY, President.

O. M. RHODES, Secretary.

PEORIA CITY.

ETHER AS A GENERAL ANESTHETIC WITH MORPHIN AND SCOPOLAMIN AS A PRELIMINARY.*

E. E. BARBOUR, M.D., PEORIA, ILL.

Ether is perhaps more used to-day than all other preparations as a general anesthetic, and almost entirely by the open method. Many operators are using some preliminary to the general anesthetic; the most used, I think, is nitrous-oxid gas. Ethyl chlorid is used by some, atropin and morphin by others, and morphin and scopolamin by a few men. While I have used all except ethyl chlorid, I prefer the morphin-scopolamin and ether by the open method. While nitrous-oxid and ethyl chlorid have advantages in a safe, quick and complete anesthesia from one-half to one minute, yet when you change to ether you have secretions of the mouth and throat to contend with which have always been very annoying to the anesthetist. Morphin and atropin are much better in this respect as the atropin dries up the secretions, but it does not relieve the nervous condition, the effect does not last so long and it does not control postoperative vomiting as well as the scopolamin.

In my experience in 350 anesthetics, all ages and conditions, scopolamin has given me all of the above advantages with none of the disadvantages. It prevents nervousness, which was always an annoyance and hindrance; it shortens the stage of excitement, facilitates inhalation, diminishes the amount of anesthetic, eliminates the salivary secretions, prevents inhalation pneumonia, and by producing long sleep obviates the need of opiates for the postoperative pain.

I am indebted to Dr. Collins for the experience I have had with scopolamin and morphin. He began the use of this preparation in December, 1905. About the same time there appeared in the journals several unfavorable articles. One of these was by Dr. Wood in *American Medicine* for December, 1905, who reported the experience of several physicians who had unfavorable results. Those favoring its use at all did not favor ether as the general anesthetic, claiming chloroform the safer of the two. In spite of these adverse reports Dr. Collins continued to have it used in his work, giving 1/6 grain of morphin and 1/100 grain of scopolamin one hour before the time of operating and giving ether as a general anesthetic.

Some of the things essential in giving an anesthetic when morphin and scopolamin have been given, are: The patient's nose and throat should be sprayed with liquid albolene before taken to the operating room. This coats the mucous membrane of the air passages and reduces the danger of pneumonia. The patient, after taking scopolamin and morphin, should not be allowed to walk, but should be lifted from the bed to the stretcher and taken direct to the operating-room. The anesthetist and nurses should avoid all unnecessary talking. The patient's eyes should be covered with a piece of wet cotton, which is done for two reasons, to keep the ether out of the eyes and for the psychological effect. As soon as the anesthetic is started the nurses should commence the preparation of the patient by securing the hands to the side of the body or across the breast. The anesthetist should start giving the ether by holding the mask about three inches from the face and gradually lowering the mask until it is resting on the face, and when the anesthesia is complete, which is from five to ten minutes, the nurses should have the patient ready for the operator, a saving in time from fifteen to thirty minutes as compared to former methods of anesthetising patients in another room. Moving or handling patients should always be avoided after anesthetic is started.

As to the kind of mask, I have tried several kinds. Metal masks are not practical for the reason that the metal attracts the volume of ether which runs down on the face and does not vaporize and the mask is difficult to keep in position. A very good mask is the Ferguson as described in Squibb's *Materia Medica*, 1906 edition, page 322. The principal objection to this mask is that it is difficult to keep in position and hard to change the covering. I have the same objection to Ochsner's mask, which is used by the Mayos, that I have to the Ferguson, and so I use nothing else but the ordinary Esmarch inhalor, covering the same with

* Read before the Peoria City Medical Society, March 3, 1908.

four to eight thicknesses of course gauze. After the anesthetic is started, cover the face and sides of mask with an ordinary towel. For any operation about the head or throat we have found the Crile method very satisfactory as described by Dr. Julius McHenry in *Surgery, Gynecology and Obstetrics* for July, 1906, page 152. By this method the surgeon is enabled to work without interruption.

From our limited experience we have learned that an anesthetist, to be successful, has no time to talk or to watch the operation. His mind should be directed to the welfare of the patient that he may be prepared to meet any warning of danger. Among the most important of these are: The pulse at the facial or temple artery, breathing, color of the face, especially the lips and ears. I always keep the left ear uncovered. Not the least of all dangers is to keep the tongue from falling back.

While I do not claim that this method of giving anesthetics is an ideal one, as I believe there will be many improvements in this branch of medicine before the ideal is reached, yet I do believe that this is the most practical and the safest method for our patients that we have at our command at the present time.

SANGAMON COUNTY.

The February meeting of the Sangamon County Medical Society was held in the Lincoln Library the evening of Feb. 10, 1908, Dr. Bowcock presiding, with fourteen members in attendance. Drs. N. S. Penick, Springfield; F. D. Huber, Pleasant Plains; A. E. Walters, Springfield; F. M. Wilbur, Riverton; L. R. Johnson, Divernon; J. H. Hill, Mechanicsburg; A. C. Baxter, Springfield; O. J. Baldwin, Springfield, and O. P. Grant, Cantrall, were unanimously elected members of the society. The names of Drs. F. D. Fletcher, Chatham; E. H. Brittin, Auburn; E. L. Matthew, Divernon, and H. R. Riddle, Mechanicsburg, were proposed for membership and referred to the Board of Censors. Dr. E. E. Hagler read a paper on "The Faucial Tonsils," followed by discussion of subject. A committee was appointed to confer with the Mayor and city authorities concerning the city's water supply.

VERMILION COUNTY.

The Vermilion County Medical Society was called to order in St. Elizabeth's Hospital Monday evening, March 9, 1908. The regular order of business was suspended to take up the program. Program: The following cases were presented: Gunshot wound of orbit, Dr. Benj. Gleason; two surgical cases, Dr. J. M. Guy; a case of anemia, Drs. Dale and R. D. Cruikshank; a heart and kidney case, Dr. O. H. Christ; a heart case, Dr. F. W. Barton; a heart and kidney case, Dr. George Steely; a case of tabes dorsalis, with interesting trophic changes, Dr. H. F. Becker.

On resuming the business session the following names of applicants were read, all having been reported on favorably by the Board of Censors: R. L. Hatfield, H. E. Rowan and G. W. Poole, Danville; D. D. Webb, J. S. Adsit, A. M. Earl, J. B. Hazel, and J. A. Ingles, Hoopston; S. R. Wilson, Rossville, and F. L. Liggett and M. Peterson, Rankin. A motion was made and seconded that the Secretary cast the ballot of the society electing these gentlemen to membership. Mr. Charles Webb, who has been working in the county in the interest of organization and harmony in the profession, gave a short address. Following the program the Sisters of the hospital served a dainty lunch, for which a vote of thanks was extended them by the society. After a discussion on the subject of advertising, Dr. Becker made a motion that the Chair appoint a committee to draft resolutions requesting the editors of papers in the county to not publish the names of physicians in connection with cases mentioned in the papers, and that these resolutions be in accordance with the ethics of the American Medical Association. Carried. A vote of thanks was extended to Mr. Webb for the part he took in the meeting toward making it a success.

E. E. CLARK, Secretary.

NEWS OF THE STATE.

PERSONAL.

Dr. Albert E. Froom, of Chicago, has moved to Mt. Rose, Colo.

Dr. and Mrs. Albert Well, Peoria, have returned from a trip to Cuba.

Dr. and Mrs. D. A. K. Steele, of Chicago, are traveling in California.

Dr. Arthur R. Adams, Macomb, expects to leave this month for Europe.

Dr. and Mrs. Jacob Frank, of Chicago, have returned from New Orleans.

Dr. and Mrs. Thomas E. Roberts, Oak Park, sailed for Europe, March 14.

Dr. Albert Green, Rockford, is confined to his house as a result of the fracture of a rib.

Dr. Alfred D. Kohn, of Chicago, has been reappointed a member of the Board of Education.

Dr. and Mrs. E. Fletcher Ingals, of Chicago, have returned from an extensive tour of Mexico.

Dr. Jacob Frank, of Chicago, has had conferred on him the insignia of the Red Cross of Japan.

Dr. Frank J. Dewey, of Chicago, was painfully injured in a collision between his bicycle and a street car March 8.

Dr. Charles W. Behm, chief of the disinfecting bureau of the Health Department, Chicago, is said to be seriously ill at Mercy Hospital.

Dr. Dudley Jackson has resigned the office of superintendent of Wesley Hospital and has resumed his practice at 70 State Street, Chicago.

NEWS ITEMS.

A new ward for the exclusive care of children was opened at the Chicago Baptist Hospital, February 22.

The stockholders of the Lake View Hospital, Chicago, have decided to dissolve the corporation, and a new corporation will be organized.

J. C. Dyer, 6509 Minerva avenue, charged with practicing without a license, is said to have been found guilty March 10 and fined \$100.00 and costs.

Chicago has resumed enforcement of the anti-spitting ordinance. February 24 twenty-one men who had been arrested in the downtown districts for spitting on sidewalks and platforms were found guilty and fined \$1.00 and costs each.

One of the officers and two clerks of a prominent firm of wholesale druggists have been arrested on complaint of the State Board of Pharmacy, charged with selling cocain without a physician's certificate or failure to keep a register of the cocain sold. The cases were continued.

The district council and city attorney have brought to light what they consider a conspiracy to defraud the city by bringing personal injury suits. They state that of six physicians in the Maxwell street district one has testified 23 times in such suits and has been interested in 17 other suits; another has testified 11 times, and has been interested in 11 similar suits; a third has testified 8 times and is interested in 10 other suits; a fourth has testified 13 times and has been interested in 11 suits; a fifth has testified 12 times and has been interested in 11 suits; a sixth has testified 16 times and is interested in 8 suits; a record which they think speaks for itself.

A fraud order was issued on February 12 by the Postoffice Department against the "Chicago Medical Institute." William Wood, secretary; "Dr. Dunn" George Gordon, secretary, and S. F. Francis, alias Dr. Dunn, with offices at Room 201, 130 Dearborn street. This institution is one of the many whose advertisements state that it never disappoints its patients, that it fulfills its promises, never holds out false hopes, cures varicocele in four days without pain, operation or ligature, cures prostatitis in ten to twenty days without cutting, dilating, etc. On decoy letters being written to the institute, reply was received that it would use internal medicines and also urethral suppositories for the cure of prostatitis, and requested that \$10.00 be paid in advance. A fraud order was issued about two years ago against the firm of Francis & Francis, which, after being put out of business, induced Dr. Daniel Dunn to become a partner and carry on the business.

The following is announced as the recognized staff of St. Joseph's Hospital, Chicago: Chief of staff and surgical department, Dr. John B. Murphy; associate chief, Dr. C. Hugh McKenna; consulting staff, Drs. Charles Adams, George W. Reynolds, George P. Parsons, Ludwig H. Abele, Vaclav H. Podstata and Charles J. Whalen; attending surgeons, Drs. John B. Murphy, Carl Wagner, C. Hugh McKenna, and William N. Senn; associate surgeons, Drs. John P. Grimes, W. J. Swift, Arthur M. Butzow, and Henry Wagner; chief of medical department, Dr. Robert B. Preble; attending physicians, Drs. Plummer M. Woodworth, John W. O'Neill, Arthur A. Small, Thomas J. O'Malley, and Julian E. Hequembourg; chief of gynecologic department, Dr. Clarence W. Webster; attending gynecologist, Dr. William M. Thompson; associate gynecologists, Drs. William B. Fehring and Philip S. Doane; obstetrician, Dr. Frank W. Lynch; oculist, Dr. George W. Mahoney; associate oculist, Dr. P. J. H. Favill; nose and throat, Dr. Jacques Holinger and G. Paul Marquis; neurologist, Drs. Daniel R. Brower, Jr.; pediatrician, Dr. Philip S. Chancellor, and pathologist, Dr. David J. David.

COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION.

The following, published in *The Journal* of the American Medical Association, March 21, describes something of the personnel of the Council on Pharmacy and Chemistry of the American Medical Association.

This is of special interest to our readers because of the work that is being done by this council to rid our armamentarium of useless drugs.

"Dr. M. L. Harris, secretary of the Board of Trustees of the American Medical Association, sends the following for publication. At the meeting of the Board of Trustees, held at Atlantic City, June, 1907, the following by-laws relating to the Council on Pharmacy and Chemistry were adopted:

The Council on Pharmacy and Chemistry shall consist of fifteen members and shall be composed of physicians, pharmacologists, chemists and pharmacists. They shall be elected by the Board of Trustees on nomination by the Council in such a manner as shall be provided by the Board of Trustees. Members shall serve five years, and the term of office shall be so arranged that the terms of three members shall terminate each year. The Board of Trustees shall designate one member of the Council to act as chairman.

The functions of the Council shall be to examine into the composition, properties, action, etc., of proprietary and other articles offered to physicians or to the public as remedial agents, and to publish such information concerning the same as may be of value to the profession or as the judgment of the Council may dictate.

The Trustees shall appoint a chemist, who shall have charge of, and be chief of the chemical laboratory of the Association, and who shall be the secretary of the Council, and *ex-officio* a member thereof. His term of office and his salary shall be determined by the Board of Trustees.

At its meeting held in Chicago, Oct. 25, 1907, provision was made for arranging the time of expiration of the services of the present members of the Council. A resolution was also adopted asking the Council to nominate to the Board of Trustees twice as many persons as there would be vacancies on the 1st of March, 1908, "such nominations to be conducted in such a manner that the final votes shall be secret, and shall be opened in the presence of the Board of Trustees."

In accordance with the above resolution the Council submitted to the Board of Trustees eight candidates, and from these the board elected the following: Dr. J. A. Capps, Chicago; Dr. D. L. Edsall, Philadelphia; Prof. Otto Folin, Boston, and Dr. Robert A. Hatcher, New York (re-elected). The extra vacancy on the 1st of March necessitating the election of four instead of three members came from the fact that Professor Puckner had become the chief chemist of the Association, and, in accordance with the by-law adopted last June, became the secretary of the Council and *ex officio* a member thereof.

The Board of Trustees adopted a resolution directing the secretary of the board to express in writing its thanks to the retiring members.

PRESENT MEMBERS OF COUNCIL.

The following is a complete list of the Council as at present constituted, with the date of expiration of terms:

C. S. N. Hallbery, Ph.G., M.D., Professor of Pharmacy, University of Illinois, School of Pharmacy, Chicago (March 1, 1909).

L. F. Kebler, M.D., Ph.C., Chief of Drug Laboratory, Department of Agriculture, Washington, D. C. (March 1, 1909).

J. O. Schlotterbeck, Ph.C., Ph.D., Professor of Pharmacognosy and Botany and Dean of the School of Pharmacy, University of Michigan, Ann Arbor, Mich. (March 1, 1909).

F. G. Novy, M.D., Se.D., Professor of Bacteriology, University of Michigan, Ann Arbor, Mich. (March 1, 1910).

G. H. Simmons, M.D., LL.D., Editor of *The Journal* of the American Medical Association, Chicago (March 1, 1910).

H. W. Wiley, M.D., Ph.D., Chief of the Bureau of Chemistry, Department of Agriculture, Washington, D. C. (March 1, 1910).

Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica, Medical Department, Western Reserve University, Cleveland, Ohio (March 1, 1911).

M. I. Wilbert, Ph.M., Apothecary at the German Hospital, Philadelphia (March 1, 1911).

Otto Folin, S.B., Ph.D., Professor of Biologic Chemistry, Harvard Medical School, Boston (March 1, 1911).

Reid Hunt, M.D., Chief of Division of Pharmacology, Public Health and Marine-Hospital Service, Washington, D. C. (March 1, 1912).

J. H. Long, M.S., M.D., Professor of Chemistry, Northwestern University Medical School, Chicago (March 1, 1912).

J. Stieglitz, Ph.D., Professor of Chemistry, University of Chicago (March 1, 1912).

R. A. Hatcher, Ph.G., M.D., Professor of Pharmacology, Carroll University Medical College, New York City (March 1, 1913).

J. A. Capps, A.M., M.D., Assistant Professor of Medicine, Rush Medical College, University of Chicago, Chicago (March 1, 1913).

David L. Edsall, A.B., M.D., Professor of Therapeutics and Pharmacology, Department of Medicine, University of Pennsylvania, Philadelphia (March 1, 1913).

W. A. Puckner, Ph.G., Chief of the Chemical Laboratory American Medical Association, Professor of Chemistry University of Illinois, School of Pharmacy, Chicago, member *ex officio*.

ASSOCIATE MEMBERS.

A. R. Cushney, A.M., M.D., Professor of Pharmacology, University of London, London, England.

H. Thoms, Ph.D., Director of the Pharmaceutical Institute, University of Berlin, Germany.

STAFF OF CLINICAL CONSULTANTS.

The Council on Pharmacy and Chemistry presented to the Board of Trustees, at its meeting in February, 1908, a request for an appointment of a body of clinicians to whom could be referred questions relating to therapeutics. In its communication to the Board the Council stated that in the course of its work the subcommittees had frequently encountered questions, a solution of which required the experience and opinions of clinical therapeutists. The suggestion of the Council was agreed to and the following were elected as staff of clinical consultants:

Lewellys F. Barker, M.D., Professor of Medicine, Medical Department of the Johns Hopkins University, Baltimore.

H. A. Christian, M.D., Assistant Professor of Theory and Practice of Physic, Harvard Medical School, Boston.

LeRoy Cramer, M.S., M.D., Professor of Medicine and Clinical Medicine, John A. Creighton Medical College, Physician to St. Joseph's Hospital, Omaha.

George Dock, A.M., M.D., Sc.D., Professor of Theory and Practice of Medicine and Clinical Medicine, University of Michigan, Department of Medicine and Surgery, Ann Arbor, Mich.

George E. de Schweinitz, M.D., Professor of Ophthalmology, Department of Medicine, University of Pennsylvania, Philadelphia.

John T. Halsey, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine, Medical Department (undergraduate), Tulane University of Louisiana, New Orleans.

C. F. Hoover, A.B., M.D., Professor of Physical Diagnosis, Medical College, Western Reserve University, Cleveland, Ohio.

Alexander H. Lambert, A.B., Ph.B., M.D., Professor of Clinical Medicine, Physician to Bellevue Hospital, Cornell University Medical College, New York City.

J. L. Miller, M.D., Assistant Professor of Medicine, Rush Medical College, University of Chicago, Chicago.

H. C. Moffitt, B.S., M.D., Professor of Principles and Practice of Medicine, University of California, Medical Department, San Francisco.

A. T. McCormack, M.D., M.A., Secretary Kentucky State Medical Association, Bowling Green, Ky.

Alfred Stengel, M.D., Professor of Clinical Medicine, Department of Medicine, University of Pennsylvania, Philadelphia.

Charles G. Stockton, M.D., Professor of Principles and Practice of Medicine and Clinical Medicine, Medical Department, University of Buffalo, Buffalo.

J. A. Witherspoon, M.D., Professor of Practice of Medicine and Clinical Medicine, Medical Department, Vanderbilt University, Nashville, Tenn.

A. S. Taussig, M.D., Lecturer on Medicine, the Denver and Gross College of Medicine, Medical Department of the University of Denver, Denver.

Dr. J. R. Webster, of Monmouth, celebrated the fiftieth anniversary of his medical practice, Feb. 19, 1908, at his residence in that city. The affair was a complete success from a social standpoint, as well as a fitting tribute to the character and achievements of this remarkable man who, though advanced in years, is still young in spirit and keen in intellect. After an elaborate dinner had been served, Dr. Ralph W. Webster, of Chicago, his son, arose and in a few brief words told of the significance of the event and called on his father for a talk. Dr. J. R. Webster then gave a sketch of his own life, developing the fact that he was born in Penn Hill Township, Lancaster County, Pennsylvania, July 18, 1835, a son of Samuel and Doborah (Kirk) Webster, both natives of Lancaster County and of Scotch ancestry. Dr. Samuel Webster graduated

from Jefferson Medical College, Philadelphia, 1837, and started for the west, intending to locate in St. Louis. As he passed through Monmouth he was taken sick, and when he recovered the few families living in that neighborhood demanded his services and he decided to stay. Monmouth has been the family home for seventy-one years. Dr. John R. Webster succeeded his father, after graduating at Rush in 1850 and at Jefferson in 1864. He was commissioned assistant surgeon of the Eighty-third Illinois Volunteer Infantry, but owing to illness never left the state. Twenty-three men and two women have studied medicine under him as follows: Dr. C. C. Higgins, of Chicago; Dr. Charles Little, of Oswego; Dr. James A. Grier, of Bellevue, Pa.; Dr. Alonzo Randall, of Kirkwood; Dr. Emory Morris, of Galesburg; Dr. William Winbinger, of Harper, Kan.; Dr. S. H. McCleary, of Los Angeles, Cal.; Dr. N. Hornbeck, of Youngstown; Dr. W. A. Stoecks, of Davenport, Iowa; Dr. William Horne, of Mt. Ayr, Iowa; Dr. Charles McMichael, of Cleveland; Ohio; Dr. J. M. McCutcheon, of Alexis; Dr. Blair, Dr. Robinson, Dr. Mitchell. Dr. Archer Small, deceased; Dr. Hugh Graham, deceased; Dr. Hunter, Dr. George Boone, deceased; Miss Kate Cunningham, deceased; Dr. Cora Smith, Dr. J. C. Kilgore, deceased; Dr. E. L. Mitchell, Dr. W. S. Holliday, of Monmouth. Dr. C. A. Skinner, on behalf of the physicians of Monmouth, presented him with a beautiful solid silver loving cup. Dr. D. W. Graham, of Chicago, representing physicians of that city, gave a short talk and presented Dr. Webster with a handsome gold-headed cane, inscribed "Greetings and congratulations from Chicago friends." Other addresses were made by Dr. Emma Standley, of Alexis; Dr. W. E. Taylor, of Watertown; Dr. H. B. Young, of Burlington; Dr. George E. Luster, of Galesburg, and Dr. J. M. McCutcheon, of Alexis. Other gifts of a handsome character were made. Dr. Webster has been a society member all his life, and is now a member of the American Medical Association, the Illinois State Medical Society, ex-president of the Military Tract Medical Association, and of the local physicians' club. His many friends extend congratulations and wish for many years of continued health and happiness.

SMITHSONIAN INSTITUTION.

HODGKINS FUND PRIZE.

In October, 1891, Thomas George Hodgkins, Esquire, of Setauket, New York, made a donation to the Smithsonian Institution, the income from a part of which was to be devoted to "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." In furtherance of the doctor's wishes, the Smithsonian Institution has from time to time offered prizes, awarded medals, made grants for investigations, and issued publications.

In connection with the approaching International Congress on Tuberculosis, which will be held in Washington, Sept. 21 to Oct. 12, 1908, a prize of \$1,500 is offered for the best treatise "On the Relation of At-

mospheric Air to Tuberculosis." Memoirs having relation to the cause, spread, prevention or cure of tuberculosis are included within the general terms of the subject.

Any memoir read before the International Congress on Tuberculosis, or sent to the Smithsonian Institution or to the Secretary-General of the Congress before its close, namely, Oct. 12, 1908, will be considered in the competition.

The memoirs may be written in English, French, German, Spanish or Italian. They should be submitted either in manuscript or type-written copy, or if in type, printed as manuscript. If written in German, they should be in Latin script. They will be examined and the prize awarded by a committee appointed by the secretary of the Smithsonian Institution in conjunction with the officers of the International Congress on Tuberculosis.

Such memoirs must not have been published prior to the Congress. The Smithsonian Institution reserves the right to publish the treatise to which the prize is awarded.

No condition as to the length of the treatises is established, it being expected that the practical results of important investigations will be set forth as convincingly and tersely as the subject will permit.

The right is reserved to award no prize if in the judgment of the committee no contribution is offered of sufficient merit to warrant such action.

Memoirs designed for consideration should be addressed to either "The Smithsonian Institution, Washington, D. C., U. S. A.," or to "Dr. John S. Fulton, Secretary-General of the International Congress on Tuberculosis, 714 Colorado Building, Washington, D. C., U. S. A." Further information, if desired by persons intending to become competitors, will be furnished on application.

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution.
Washington, D. C., Feb. 3, 1908.

SOCIETY NOTES.

Dr. J. P. Bulkley delivered a public lecture in the Public Library Building Saturday, March 21, 1908. Subject, "Function of the Teeth and Their Relation to General Health."

Dr. J. H. Wesner delivered a public lecture at the Chicago Public Library Building Saturday evening, March 14, 1908. The subject, "How to Solve the Problem of Pure Milk for Our Cities."

The Cass County Medical Society gave a banquet on the evening of February 12th at the Carnegie Library Building in Beardstown. An elaborate banquet was served and toasts were given. Papers were read by Dr. George N. Kreider and Dr. L. C. Taylor, of Springfield. Guests were in attendance from Lacon, Jacksonville and Havana.

Resolutions regarding the death of the late Nicholas Senn were

passed at the last meeting of the Chicago Gynecological Society, February 21, setting forth the indebtedness of the society and its members to the late Dr. Senn, acknowledging their obligations to him, and expressing their loss in his death.

The Council of the Chicago Medical Society, at a recent meeting, authorized the organization of a new branch society to be known as the Calumet District No. 14, with the following boundaries: Ninety-fifth Street on the north, Collis Avenue on the east, the city limits on the south and on the west, the boundary line to be Halsted Street to Ninety-fifth, to One Hundred and Eleventh and the Grand Trunk Railroad from the corner of Halsted and One Hundred and Eleventh to the city limits.

A joint dinner and meeting of the Physicians' Club with the Chicago Medical Society was held at the Great Northern Hotel, Friday evening, March 13, 1908, at 6:30 o'clock. Chairman for the evening, Dr. Henry Favill; subject, "The True Situation in Regard to the Administration of the State Institutions."

1. What the State Board of Charities is Accomplishing; Hon. Wm. C. Graves, Springfield.

2. Where and How Can Matters Be Improved; Hon. Cicero J. Lindley, Greenville, Ill., member Appropriation Committee.

3. The Medical Administration of the State Charitable Institutions; Dr. Frank P. Norbury, M.D., Jacksonville, ex-president State Conference of Charities.

4. What the Civil Service Commission Is Accomplishing; Hon. Wm. B. Moulton, Chicago, President Illinois Civil Service Commission.

5. Where the Fault Lies; Dr. Richard Dewey, Wauwatosa, Wis., ex-superintendent Kankakee Insane Asylum.

6. Discussion; Dr. J. W. Pettit, Ottawa, Ill., ex-president Board of Trustees Illinois Charitable Eye and Ear Infirmary; Miss Julia C. Lathrop, Rockford, philanthropist and member State Board of Charities.

All speakers on the above program were present, with the exception of Hon. Cicero J. Lindley and Miss Lathrop. It was a matter of regret that Mr. Lindley could not be present and contribute to the most excellent program given. Never in the history of the Physicians' Club has there been such an interesting and important meeting. As announced in other previous notes, the truth regarding the situation was told. No more important subject is before the people of the State of Illinois than the proper scientific, hygienic and economic management of its state institutions. The facts should be laid bare before all of the people. There is no better means of bringing the truth regarding these state institutions to the people than through the regular family physicians. When the true status is thoroughly appreciated the people of the State of Illinois can be trusted to correct all existing evils. At the conclusion of the program the following resolution was introduced by Dr. J. M. Dodson and unanimously adopted:

Resolved, That the attendance upon the meeting of the Physicians' Club of Chicago and the Chicago Medical Society indorse heartily the splendid work of

the present Illinois Board of Charities and Corrections. We herewith express our perfect confidence in the board and pledge our earnest and enthusiastic support to the efforts it is making to correct the evil conditions which may exist in the charitable and penal institutions of the state.

PUBLIC HEALTH.

Diphtheria is still present in Whitehall.

Two new cases of smallpox have developed in Bartonville.

At Harlem Center twenty cases of smallpox of mild type are reported.

Smallpox is reported from Astoria, Loami, Lacon, Chandlerville and Melvin.

The public schools of Rantoul are to remain closed for a week on account of prevalence of scarlet fever.

The state Board of Health has received word that four additional cases of smallpox have appeared in Auburn.

There are said to be fifteen well-developed cases of smallpox at Robinson, and a quarantine has been established.

As a result of scarlet fever at Chenoa, all public meetings have been forbidden and schools and churches have been closed.

The health department of Chicago discovered four cases of scarlet fever among the inmates of the John Worthy School February 18.

The Waukegan Board of Health has procured 4,000 vaccine points from the State Board of Health and general vaccination is ordered.

An epidemic of diphtheria is threatened at the Illinois Central Hospital for the Insane, Jacksonville, where three cases have occurred, with one death.

Dr. Elvin F. Baker, Jacksonville, inspector of the State Board of Health, has passed on the epidemic disease, which is said to have been puzzling the practitioners of Lacon, and pronounces it smallpox.

At a meeting of the health officers and the authorities of the University of Illinois, in Champaign, Ill., it was agreed that the local boards carry out the instructions of the State Board of Health regarding vaccination.

The epidemic of smallpox which has been prevalent in over thirty counties of the state is reported as abating, and the health authorities have the situation well in hand. Many towns have had quarantine lifted and public gatherings are again permitted.

At a meeting of the Suburban Health League, held in Indiana Harbor, Ind., March 2, plans were devised to stop the spread of contagious diseases. Physicians throughout the Calumet region will act in unison in reporting such cases to the league. The following officers were elected: President, Dr. William Parkes, Evanston; vice-president, Dr. Albert F. Storke, Oak Park; secretary-treasurer, Dr. Heman Spaulding, Chicago; executive committee, Drs. William A. Evans, Chicago; Samuel C. McCracken, Winnetka; Aaron J. Lauer, Whiting, Ind.; Clarence W. Geyer, Aurora, and Albert F. Storke, Oak Park.

The disaster which occurred recently in the suburban town of Cleveland, Ohio, where nearly 200 children were burned to death in a

school house, has aroused the state health authorities to a rigorous inspection of schools and churches. Many needed improvements have been advised and made. It is to be regretted that such disasters are necessary in order to arouse the authorities to a recognition of the conditions of buildings which constantly menace the safety of the people. We recall the awful disaster of the Iroquois Theater fire a few years ago in Chicago, which became a stimulus to the city and state officials and inspectors to insist on a full compliance with the law in the construction of theaters. Warnings have been issued by unbiased inspectors regarding the sanitary conditions and lack of fire protection at some of our charitable institutions. It is to be hoped that these warnings and statement of facts will not have fallen on stony ground, but that those in whose charge the care of these institutions is have already made the necessary changes to avert a disaster. A timely warning when heeded may save scores of lives and untold anguish and grief.

The conference at Indiana Harbor, recently held for discussion of the typhoid situation, received reports from Chicago, Michigan City, Gary, Hammond, Whiting, East Chicago and Indiana Harbor, and adopted the following resolutions, indicating the sense of the meeting: First, that the sewage from the district south of Eighty-seventh Street must not be allowed to go into Lake Michigan; second, that the people of Whiting, Indiana Harbor, West Chicago and Hammond must (a) boil their water, (b) go further into the lake with their intakes, (c) keep their sewage out of the lake; third, that the people of Michigan City must (a) boil their water, (b) stop pumping Trail Creek sewage through their water pipes when ice gets in the lake intake, (c) build a standpipe or use blowpipe to clear ice from intake, (d) go further into the lake with their intakes, (e) keep their sewage out of Lake Michigan; fourth, that the people of Gary must (a) boil their water from their wells, (b) heat their milk, (c) cook their vegetables and fruit, (d) eat nothing raw, (e) screen against flies, (f) either use the dry earth system for their yard privies or (g) build cement vaults; fifth, that no yard privies should be allowed where the density of population is greater than ten to the acre; sixth, that where there are yard privies they should be of either the dry earth type or else of cement, waterproof construction.

The *Bulletin* of the Chicago Health Department gives the following report on the health of the community during February: "The month of February usually furnishes the highest death rate of any month of the year. It has averaged the highest during the past ten years. February, 1908, is an exception to the rule. It passes into the record with a death rate considerably below the decennial average and much lower than the preceding month. Only three times has the February rate been lower in the last ten years, and in the last fifty years in but fourteen instances. The 2,744 deaths reported during the month are fewer by 352 than the preceding month and are 229 below the returns of the corresponding month of last year. As compared with February a year ago, there were fewer deaths from the following important causes: scarlet fever, 101 fewer; pneumonia, 94 fewer; consumption, 51 fewer; vio-

lence, including suicide, 33 fewer; typhoid fever, 13 fewer; measles, 16 fewer; whooping cough, 18 fewer; diphtheria, 5 fewer, and convulsions 29 fewer. There was an increased mortality from the following causes, as compared with last year: influenza, 81 more; diarrheal disease, 52 more; cancer, 19 more; heart disease, 8 more. Compared with January, there was a considerable improvement in the contagious disease situation, 25 fewer deaths from the acute contagious diseases of childhood; a marked reduction in the pneumonia mortality, where an increase had been expected, 517 as against 570, a reduction of 53 in February; a most satisfactory falling off in the typhoid mortality, 19 fewer deaths; and a heavy decline in the influenza and consumption mortality, decreases of 75 and 43 respectively. In addition there were 20 fewer cancer deaths, 22 fewer from the nervous diseases, 11 fewer from bronchitis, 11 fewer suicides, 10 fewer from diseases of the heart, 9 fewer from convulsions, and a reduction of 7 from Bright's disease. The acute intestinal diseases, measles, whooping cough and apoplexy, were the only important causes showing increase.

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held in Chicago, Jan. 15, 17, 1908. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The number of candidates examined was 29, of whom 23 passed and 6 failed. The following colleges were represented:

PASSED.		
College.	Year Grad.	Total No. Examined.
Arkansas Industrial University	(1891)	1
Georgetown University	(1896)	1
American Medical Miss. Coll.	(1, 1906); (2, 1907)	3
Illinois Medical College	(1, 1906); (2, 1908)	3
Jenner Medical College	(1906)	1
National Medical University	(1907)	1
Northwestern University	(1, 1899); (1, 1907)	2
Rush Medical College	(1907)	3
Hospital College of Medicine, Louisville.....	(1907)	1
Harvard Medical School	(1896)	1
Barnes Medical College, St. Louis	(1906)	1
University Medical College, New York	(1890)	1
Medical College of Ohio	(1891)	1
Western Pennsylvania Medical College	(1907)	1
Jefferson Medical College	(1906)	1
College of P. and S., Edinburgh, Scotland.....	(1905)	1
FAILED.		
Illinois Medical College	(1908)	1
Jenner Medical College	(1907)	1
National Medical University	(1906)	1
Indiana Medical College	(1907)	1
Barnes Medical College, St. Louis	(1906)	1
St. Louis College of P. and S.	(1896)	1

NEW INCORPORATION.

Epi Dermo Medicine Company, Eldorado; capital \$50,000; sell proprietary medicines; incorporators, S. W. Latham, R. Gregg, J. H. Scott.

CHANGE OF LOCATION.

Dr. J. W. Woolston, of Chicago, has removed to Dell Rapids, S. D.

Dr. W. S. Faulds has removed from 4215 Commercial Avenue, Chicago, to Gary, Ind.

Dr. Herbert A. Potts has returned from Vienna and opened an office at 103 State Street, Chicago.

Dr. J. A. Asay, of Rock Island, has moved his office to the new Safety Building, Third Avenue and Eighteenth Street.

Dr. Watson W. Gailey has removed from Jacksonville to Bloomington and taken offices in the Griesheim Building. He will confine his practice to diseases of the eye, ear, nose and throat.

Dr. Raymond Custer Turek announces his removal from Chicago to the Consolidated Building, Jacksonville, Fla., where he will practice surgery and consultations. Dr. Turek at one time had charge of the sanitarium at Alma, Mich.

MARRIAGES.

GEORGE W. BRONSON, M.D., to Miss Minnie C. Nater, both of Streator, Ill., February 5.

PAUL R. BADGER, M.D., to Miss Stella Fink, both of Kankakee, Ill., February 20.

CHARLES W. JOHNSON, M.D., to Miss Elizabeth B. Hayes, both of Litchfield, Ill., February 9.

DEATHS.

WILLIAM MISLAP, M.D., University of Vienna, Austria, 1876; died at his home in Chicago, February 6, aged 80.

JOHN H. YANAWAY, M.D. (Years of Practice, Ill.), 1877; died at his home in Toledo, Ill., January 24, aged about 80.

WILLIAM CAVINS, M.D. (years of practice, Ill.), 1877; died at his home in Raritan, Ill., February 5, from pneumonia, aged 71.

ONESIMUS MICHAUD, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1875, of Clifton, Ill., died at L'Ebrale, Ill., February 13.

JAMES J. ROWE, M.D., Eclectic Medical Institute, Cincinnati, 1858; died at his home in Abingdon, Ill., February 29, from paralysis, after an illness of 5 years, aged 76.

WILLIAM S. BRYAN, M.D., Rush Medical College, Chicago, 1882, died at his home in Cambridge, Ill., March 5, from pneumonia, after an illness of three weeks, aged about 50.

ADOLPH P. BERNHARDT, M.D., National Medical University, Chicago, 1901; a member of the Illinois State and Chicago Medical societies; died at his home in Chicago, February 21, aged 41.

RUFUS M. ELLIOTT, M.D., Rush Medical College, Chicago, 1860; for 25 years a practitioner at Mackinaw, Ill., died at his home in Pekin, Ill., February 15, from pneumonia, after an illness of one week, aged 70.

WILLIAM C. REEVES, M.D., Rush Medical College, Chicago, 1885, for five years surgeon of the Burlington System, Omaha; died at his home in Ivesdale, Ill., February 12, after an illness of two weeks, aged 43.

SAMUEL JEFFREY AVERY, M.D., Rush Medical College, Chicago, 1864; a member of the Illinois State and Chicago Medical Societies; died suddenly at his home in Chicago, February 15, from heart disease, aged 45.

E. HUDSON SAMMONS, M.D., Rush Medical College, Chicago, 1880; a member of the American Medical Association; died at his home in Chicago, March 5, from heart disease, after an illness of ten days, aged 58.

THEODORE W. HEUCHLING, M.D., University of Würzburg, Germany, 1864; physician of Cook County in 1890, and appointed U. S. Pension Examiner by President Cleveland, died at his home in Chicago, February 11, aged 67.

DAVID NIRKHOFF, M.D., Rush Medical College, Chicago, 1891; a member of the Illinois State and Cook County Medical Societies; a prominent member of the Holland Society; died at his home in Chicago, February 9, aged 51.

GEORGE F. COUTANT, M.D., Hahnemann Medical College and Hospital, Philadelphia, 1872; coroner of LaSalle County, Illinois; a member of the city council of LaSalle and visiting physician to St. Mary's Hospital; died at his home, March 3, after an illness of about six months, aged 69.

JONATHAN DEARBORN, M.D., Mt. Sterling, Ill., March 18, 1908. Dr. Dearborn was a pioneer of Brown County, and practiced medicine there after his graduation from the Missouri Medical College in 1849. He was over 80 years of age. His sons, Dr. Henry and Dr. Charles B. Dearborn, survive him.

ORIN C. LAMB, M.D., Hospital College of Medicine, Medical Department, Central University of Kentucky; Louisville, 1893; a member of the American Medical Association; local surgeon at South Chicago of the Chicago City Railway Company; died suddenly, March 12, while leaving his office to answer an emergency call, aged 52.

ROME V. WAGNER, M.D., Central College of Physicians and Surgeons of Indiana, Indianapolis, 1889; of Chicago; for one year a practitioner, and thereafter engaged in the manufacture of electric apparatus and appliances for physicians' use; president of the R. V. Wagner Company; who was operated on in December and again in January for cancer of the face and neck, due to prolonged x-ray exposure; died from secondary carcinoma of the liver, March 12, at Passavant Memorial Hospital, Chicago, aged 38.

ILLINOIS STATE MEDICAL SOCIETY

MEDICO-LEGAL COMMITTEE.

EXECUTIVE COMMITTEE.

FROM ILLINOIS MEDICAL SOCIETY.

H. N. Moyer, 103 State St., Chicago. Central 2751.	C. D. Pence, 859 Turner Ave., Chicago. Canal 1335.
W. L. Noble, 100 State St., Chicago.	M. L. Winstead, Wetaug, Ill.
E. W. Weis, Ottawa, Ill.	

FROM CHICAGO HOMEOPATHIC MEDICAL SOCIETY.

N. B. Delameter, 31 Washington St., Chicago. Central 1926.	J. B. Cobb, 42 Madison St., Chicago. Central 32.
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GENERAL COUNSEL.

Calhoun, Lyford & Sheean, 806 The Rookery, Chicago.

County and Representative.	Address.	County and Representative.	Address.
Adams—John A. Koch	Quincy	Lawrence—B. F. Hochman	Sumner
Alexander		Lee—E. B. Owens	Dixon
Bond		Livingston	
Boone		Logan—Carl Rembe	Lincoln
Brown—William Parker	Mt. Sterling	McDonough—Arthur Adams	Macomb
Bureau—C. A. Palmer	Princeton	McLean—E. Mammen	Bloomington
Calhoun		Macon—M. T. Heffernan	Decatur
Carroll—G. W. Johnson	Savanna	Macoupin—J. S. Collins	Carlinville
Cass—John A. Glenn	Ashland	Madison—J. N. Shaff	Alton
Cook County, Chicago Medical Society:		Marion—W. D. Richardson	Centralla
W. L. Noble	100 State St., Chicago	Marshall—S. O. Hendricks	Henry
H. N. Moyer	103 State St., Chicago	Mason	
C. D. Pence	1389 Ogden Ave., Chicago	Massac—A. C. Ragsdale	Metropolis
Champaign—H. E. Cushing	Champaign	Menard—Burton W. Hole	Tallula
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Cumberland—W. R. Rhodes	Toledo	Peoria—Samuel Bane	Peoria
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De Witt—G. S. Edmondson	Clinton	Platt—C. M. Bumstead	Monticello
Douglas—W. S. Martin	Tuscola	Pike—L. J. Harvey	Griggsville
Edgar		Pope	
Edwards—C. S. Brannan	Albion	Pulaski—M. L. Winstead	Wetaug
Effingham—J. B. Walker	Effingham	Putnam	
Fayette—E. W. Brooks	St. Elmo	Randolph—H. C. Adderly	Chester
Franklin		Richland	
Fulton—W. S. Strode	Lewistown	Rock Island—G. L. Eyster	Rock Island
Gallatin—T. Alfred Jones	Ridgeway	St. Clair—F. E. Auten	Belleville
Greene—H. A. Chapin	White Hall	Saline	
Grundy—H. M. Ferguson	Morris	Sangamon—B. B. Griffith	Springfield
Hamilton—Henry E. Hale	McLeansboro	Schuyler	
Hancock—Charles L. Ferris	Carthage	Scott	
Hardin—J. A. Vernack	Karbers Ridge	Shelby—Frank Auld	Shelbyville
Henderson—J. P. Riggs	Media	Stark	
Henry—C. W. Hall	Kewanee	Stephenson—W. E. Karsher	Freeport
Iroquois—Ford—O. O. Hail	Milford	Tazewell	
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Jasper—James P. Prestly	Newton	Vermilion—Joseph Fairhall	Danville
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Knox—Ben. D. Baird	Galesburg	Williamson	
Lake		Winnebago—Charles Winn	Rockford
La Salle—E. W. Weis	Ottawa	Woodford—J. F. Page	Eureka

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VOL. XIII

SPRINGFIELD, ILL., MAY, 1908

No. 5

ORIGINAL ARTICLES

WHAT THE ILLINOIS STATE BOARD OF CHARITIES IS ACCOMPLISHING.*

WILLIAM C. GRAVES.

Executive Officer of the Illinois State Board of Charities.
SPRINGFIELD, ILL.

*Mr. Chairman and Gentlemen of the Physicians' Club of Chicago and
the Chicago Medical Society:*

In the announcement of to-night's joint dinner and meeting of your two societies occurs a statement regarding the present excitement and uproar over the condition and administration of the seventeen Illinois state charitable institutions. The statement concludes as follows: "We are fortunate in that the speakers have been and are in the thick of it. They know the truth. We feel that we are entitled to know and hope to get the truth. The medical profession of the state should take its stand in regard to these matters. It is very apt to get its cue to-night."

In the face of an invitation like that, calling for a plain statement of facts, you force me to abandon the soft speech of diplomacy, usually employed by men in the state service, and to speak out in language so plain that all who hear will understand. Compliance with your request requires that some names be mentioned. In mentioning names of men as antagonistic to the Board of Charities policies, I beg of you to understand that I am criticising the acts of public officials. I am not attacking individuals. I shall state what I know to be true and also what others, in whom I have confidence, have told me are facts.

MUST BE VIEWED IN A PERSPECTIVE.

In passing judgment upon any public service it is necessary to view that service in a perspective. There must be standards of comparison. There must be, to use the form of a picture, a stage setting of historical events. There must be side lights to pick out the opportunities

* Address delivered before the Physicians' Club of Chicago and the Chicago Medical Society, in Chicago, on March 13, 1908.

of the officials. There must be accessories showing the equipment provided to solve the problem step by step toward the final solution. Mobs evidencing prejudice and venom must sweep the stage in fury. Public servants who cry out to be let alone must come into view. The critic must hear the jibes and the ribald insults of small minds that ridicule great things which they can not comprehend. He must see the skulking Judases who trifle with the welfare and the comfort of wrecks of humanity to gratify political ambitions and to even up political scores. Such creatures are real. Thank God they are few! The critic must see friends who are tricked by enemies. He, also, must behold, along the entire historical perspective, the honest warfare between the philanthropist and the economist, each triumphant at times, both partly right and partly wrong at all stages, each ever misunderstanding the other, one following his instinct, the other fixing possibilities by their cost in money. Above every other thing, this panorama will show that, step by step, conditions surrounding the insane, the epileptic, the feeble-minded, the blind, the deaf, the criminal, and the perverted; and the dependent, neglected and delinquent little children, are growing better. The whole stage picture presents a series of Titanic struggles working toward this humane end.

Now, placing the present public charity service of Illinois thus in the middle of the stage, under the searching spot light, the critic views it in true proportion. He is prepared to determine whether the service under scrutiny is progressing as it should, whether it is standing still, or whether it is slipping backward. Upon this showing he should commend and encourage, criticise adversely, or utterly condemn and repudiate. The Illinois State Board of Charities welcomes the invitation of your two great clubs of professional men, represented here to-night, to step into the middle of the stage for critical inspection at this time of unrest. Placed thus in true proportion with others who have endeavored in their time and with such tools as they had to improve the administration of public charity, the present board confidently awaits your verdict.

THE PRESENT STATE BOARD OF CHARITIES.

The time allotted me to-night will not permit a far dip into the past for the manifold details of the stage setting. Therefore, I shall come at once to the time when the present State Board of Charities was appointed in Illinois.

When Charles S. Deneen was elected Governor of Illinois he recognized the popular unrest regarding the state charitable institutions. Progressive men and women felt there was need of a careful study of the existing conditions and system with a view to such changes as might be found necessary. To advise him in carrying out this vast undertaking Governor Deneen appointed a Board of Charities composed of Dr. Frank Billings and Dr. Emil G. Hirsch of Chicago, Miss Julia C. Lathrop of Rockford, Dr. John T. McAnally of Carbondale, and Mrs. Clara P. Bourland of Peoria. Each was qualified with expert knowledge for

some part of the work at hand. All appointments were made without regard to political considerations. The Board decided:

1. Not to turn ghouls and dig into the graves of the past, but to build on the basis as found to exist.

2. To make a study of medical administration, especially in the insane group of institutions and devise an efficient system, if one were needed.

3. To make a survey of buildings and mechanical equipment and, if conditions demanded, to devise plans looking to the safety and well being of patients and the economical operation of institutions.

4. To take up business administration after matters of more immediate concern to patients had been given attention.

MEDICAL ADMINISTRATION.

The members of the board, personally or by agents, as the law contemplates, proceeded to make careful examinations of the institutions. The Board was confronted by a general condition of physical dilapidation of buildings and equipment and lack of modern spirit and methods in the care of patients. It found the need of radical improvements of an extent that the Board itself did not anticipate and of which the general public could have no conception. This statement is a mild characterization of the general situation. It does not mean that there were no good officials in the service. It was apparent that the vicissitudes of politics in twelve years had wrought their perfect work of intimidation and disorganization. This was especially true at Kankakee, where there had been a swift descent from the high standards set by Dr. Richard N. Dewey, a descent whose depth may be measured by curious historians in the report of the 1902 investigation of that institution, which is in the archives of the Civil Service Reform Association of this city.

The medical experts found the institutions in the insane group top-heavy as places of custody. But hospitals are for sick people. Insane persons are sick. Therefore, it was necessary to build up the hospital service and make custodial features secondary. The imperative need of such change was found to be not only humane but economic. Every hospital for the insane was overcrowded. In the county poorhouses, not including Cook County, were 600 insane men and women. Some of them were kept in places that suggested medieval horror and brutality. It was found that the net annual increase of insane in state institutions was 317. It costs \$200 a year to the state and county to maintain each insane patient. Every 100 added discharges from hospitals would save \$200,000 a year, not to mention the productive capacity of cured or improved patients and the saving in human sorrow their restoration to society vouchsafed. The Board of Charities' plan contemplated an attempt to reduce the number of insane in institutions by the following medical procedures:

1. The education of physicians in general practice by clinics in state hospitals for the insane, to recognize the danger signals of approaching

insanity and by proper treatment keep persons from going to hospitals for the insane.

2. The higher education of physicians in the state service and the use of hydrotherapy so as to cure or improve the acute so-called "curable" cases and thus get patients out of the hospitals instead of allowing them to become chronic.

3. The industrial re-education of the chronic hopeless insane so they could be wholly or partly self-supporting outside of hospitals.

In carrying out the first proposition clinics were begun at Elgin. Physicians of seven towns in the Fox River Valley eagerly availed themselves of this means of practical education which the medical colleges had been unable to provide them as students. When I discuss the legislature I shall tell you how this practice was ordered stopped.

The education of physicians in the state service presented a problem that required radical treatment. Judged by their institutions, the superintendents had been forced to neglect the profound study of mental and nervous diseases. The greater part of their time was absorbed in business administration. Keeping down the per capita cost was the ruling passion. All were more or less tinctured by politics. Their assistants, as a rule, were not up to date doctors, owing to lack of facilities for study. There was no satisfactory clinical and pathological work. The laboratories, where there were such, were crude and inefficient. Each institution had its own medical records, some of them entirely primitive. There was little scientific spirit. There was no coordination of medical effort. Only one institution had a training school for nurses. The great bulk of the attendants were custodians without knowledge of insanity as a disease and without aptitude for and education in the art of nursing. The facilities for the care of the physically sick insane were inadequate.

Save for the hospital at Watertown, forced ventilation was provided in no institution. A survey showed that every hospital was crowded beyond the sanitary limit. The excess population over normal breathing capacity was 1,577 patients, enough for a separate institution. Idleness was a curse everywhere. In no institution was industrial re-education carried on as a medical procedure to the extent that the mental health of the patients demanded. There was not one modern continuous bath in any hospital. Save at one institution, consumptives were not segregated.

To meet these inadequate medical conditions the Board recommended a new arrangement of the staffs, maintaining the medical superintendent as the supreme head, but giving him a steward, or business manager, to relieve him of the details of business administration. The Board recommended that there be one clinical assistant and one woman physician among the assistant physicians. An interne service was recommended to assist the assistants and to keep thorough records as the basis of scientific study. It was recommended that laboratories be fitted out at each hospital to aid in diagnosis and for research. Over all, the Board recommended the establishment of a state psychopathic institute to which the hospital physicians could go in rotation for study under an expert psycho-

pathologist and then return to put the knowledge thus acquired into use at his home institution.

The establishment of high-grade compulsory training schools for nurses was recommended for each hospital with a uniform curriculum and a reciprocal arrangement for service and training of nurses between state hospitals for the insane and general hospitals over the state. A differentiation between nurses attending the sick and attendants upon custodial cases was advised.

Before an audience of physicians there is no need to argue for the hydrotherapeutic treatment of improvable types of acute insanity. You who are not mental and nervous specialists know what hydrotherapy has done in typhoid, for instance. The Board recommended the apparatus for all hospitals for the insane. Elgin and Kankakee at once installed plants. By the water treatment and the education of attendants and nurses it is hoped to reduce to a minimum mechanical and chemical restraint, as well as to cure and improve curable and improvable patients.

The chronic insane, because of degenerating power, are able to do very little or no intellectual work, but they are capable of learning the manual arts. In fact, this industrial re-education can be carried to such a point of perfection as to make it possible for many of the patients now charges upon the state to return home and find light employment and make enough money to support themselves, or at least aid in their support. Some money is saved the state by not having to purchase supplies made by patients, but the chief value of industrial re-education is medicinal. An appropriation was recommended for special employment of the insane and feeble-minded. The Board recommended the segregation of consumptive patients detained in state institutions.

PHYSICAL REHABILITATION—GENERAL APPROPRIATIONS.

The state architect and the consulting engineer, provided through the influence of Governor Dencen, for we had no money to pay them, made extremely disquieting reports. Mr. W. C. Zimmerman, the state architect, after his survey, was so impressed with the danger of a fire horror at Elgin that he was "unwilling to carry alone," to use his own language, "the responsibility of that knowledge." He immediately made known the conditions to Superintendent Podstata and to the superintendent's superiors. Soon reports for all the institutions were in the hands of the Governor and the Board of Charities. Tabulating the estimates, the total cost of putting the seventeen state charitable institutions in first-class shape was about \$2,250,000 in addition to the usual appropriations. The figure appalled us. We had no idea it would run above \$400,000 or \$500,000. We then learned the day of reckoning had come after years of neglect. As in medical administration, the state had not kept abreast of the advancement made in architectural, engineering and sanitary science.

In conference it was decided that, in consideration of the taxpayer, there would be no recommendations for a bond issue to put the institu-

tions on their feet, and that the tax rate should not be increased. Appropriations for all state purposes were to be kept at about \$19,000,000. This decision had a firm basis in reason, because Governor Deneen had accumulated, in the state treasury, a surplus which it was estimated would be \$3,250,000 above the usual needed cash balance on July 1, 1907. There was the further reason that the work could not be done in two years. It was determined to revise the recommendations of the architect and engineer and to ask the legislature for some of the \$3,250,000 to begin a scheme of physical rehabilitation of the charitable institutions that could be completed by subsequent legislatures. Accordingly the reports were redrafted so as to leave only those items that were considered necessary for the safety, comfort and well being of the inmates and the economic operation of the institutions. As many items as possible were absorbed into the customary repair and improvement appropriation requests. Thus the estimate for physical rehabilitation of an extraordinary character was reduced to about \$750,000.

In view of the physical surveys the superintendents and trustees were asked to review their original estimates, which, in our judgment, did not seek adequate rehabilitation. They made the revisions, advising the Board of Charities what they considered the least they could get along with in view of physical needs disclosed by the architect and engineer. At the close of the last conference the total for the charitable institutions stood \$8,867,510.00. Carefully considering each item in this total, the Board of Charities reluctantly made a net cut of \$1,062,594.00, leaving the total recommended \$7,804,916.00. The items reduced or cut out were those indicated by superintendents as of least importance. The Board recommended that \$637,380.00 for physical improvements, \$265,000.00 for a village of epileptics, and \$150,000.00 for a state sanatorium for consumptives, or a total of \$1,052,380.00, be appropriated and used from the surplus.

THE FORTY-FIFTH GENERAL ASSEMBLY.

In view of the extraordinary situation discovered and the extraordinary remedies proposed, Governor Deneen devoted 19 per cent. of his message to the Forty-fifth General Assembly to the charitable institutions. He further suggested that Dr. Billings inform the members of the legislature by addressing them, in addition to the detailed printed information placed at their disposal by the Board. This Dr. Billings did. He plainly stated the case. A wave of indignation passed over the dominant element in the legislature. Dr. Billings' bald truths were resented. His assertion that the Northern Hospital for the Insane at Elgin was a sample fire trap and that there were others aroused wrath. A great furor arose. When the appropriation hearings came on, the Board of Charities and its appropriation recommendations were ignored utterly.

But to come straight to financial results, the legislature cut \$1,450,000 out of the Board of Charities' recommendations. As an offset to this it appropriated \$523,000 not recommended by the Board. The chief point of attack was upon the Board of Charities' plan to improve all institu-

tions, but especially the old ones, so that all the insane in county poor-houses could be removed to safe state hospitals and the net increase of 317 cases and the existing population could be taken care of during the ensuing two years. The legislature determined to build up the South Bartonville Asylum into a vast place of custody for the chronic insane at the expense of needed improvements for the safety and comfort and curative treatment of patients at other state hospitals. Of the amount cut out by the legislature \$117,000 was for physical rehabilitation, \$56,000 of it for heating and ventilation and \$61,000 for fire protection. The ventilation recommendations of the Board of Charities were essential if the state hospitals were to house all the insane. When the bent of the legislature became apparent, the \$280,000 to be appropriated for new cottages at South Bartonville, on the exploded idea that all the chronic insane could be kept in one place, on a restricted top hill, was reapportioned by the Governor and the Board of Charities among the old institutions. This reapportionment remained on paper. The legislature passed the Bartonville appropriation. The Governor vetoed this item, because other states had tried the plan contemplated and had been forced to abandon it as contrary to science and to the laws of Nature.

Vetoed are embarrassing alike to a Governor and to a legislature. Mr. Deneen told me that certain members came to him and asked whether he would veto this, that and the other appropriation, if the such bills were passed. He replied that he could not pass judgment in advance on any separate item, but if a complete scheme of appropriations was submitted to him he would be glad to try to reach an agreement and avoid vetoes. The legislature went ahead, disregarding this offer, and appropriated roughly about \$21,000,000 and the Governor vetoed nearly \$1,200,000.

An evidence of the scant courtesy of the legislature is shown in the fact that by actual count seven out of 204 members attended the lecture on epilepsy by Dr. William F. Spratling, superintendent of the Craig Colony at Sonyea, New York. Dr. Spratling was secured at private expense to speak in the Senate chamber in Springfield in favor of vitalizing the paper epileptic colony on the Illinois statute books by an appropriation of \$265,000. His lecture was announced in both branches of the legislature. In the hotels where members lived handbills were distributed. But the appropriation bill never got out of the appropriation committee. Nine American states have epileptic colonies or have authorized their creation.

The legislature likewise refused to appropriate \$150,000 for a state sanatorium for consumptives, and you gentlemen know, and the members were told, that from 8,000 to 10,000 people are dying annually in Illinois from tuberculosis. Eleven American states have sanatoria for consumptives or have authorized their creation. You are aware of the international warfare on the "great white plague."

SOME SECRET HISTORY.

This much is a matter of open record or of public knowledge in Springfield. Now let me dip down under the surface and tell you some things that are not matters of such open record, but which show the

reasons for the fight on Governor Deneen and the Board of Charities. Time will not permit me to go into details regarding secret history at more than one of the institutions. Let me take the Asylum for Feeble-minded Children, which has been a storm center from the first and still is a tornado in the path of progress. Let me quote from some of the early confidential reports made after inspections of this place:

"A count of the patients in bed at night showed that the superintendent's statement of his population aggregated 354 more than were counted, an excess of 30.9 per cent. The net per capita cost of maintenance for the fiscal quarter, based on 1,145 patients, the number counted, was \$46.33, against \$35.61 as reported by the superintendent. On the basis of 1,400 patients, on which basis the appropriation for the current year was made by the legislature, the average quarterly per capita income from the state for use at Lincoln is \$35.

"The medical administration is defective. Practically no diagnosis is made. Hospital records, as kept, are practically valueless. There are no trained nurses in the modern sense. There is no training school for nurses. No pathological work is done. There is no dentist. There is no druggist.

"The infirmary building is well adapted to its purpose, but it is unscientifically managed. There is not a history sheet in the place. The records kept are in small school composition books with paper covers. In a few cases there is an attempt at diagnosis as follows:

Sore eye	Has fever
Sprain	Eczema
Looking bad	Bad burn
Croup	Sore mouth

"One entry identifies a patient who had died as 'a little darkey.' There is no diagnosis in this case; no history of the sickness. But the name is given. Mrs. Sutter said she burned her record books as soon as they were filled, as she understood complete medical records were kept in the main office. At the administration office Dr. Young said there were no medical history books, but merely the fact of death was recorded along with the disposition of the body, but later he produced a book which he said he had forgotten. It is a small, paper-covered book called 'Physicians' Hospital Report.' It gives the date of admission to the hospital, name of patient, primitive diagnosis, and date when parents or friends were notified of the illness. Here it ends. For discharge or death one must refer to the hospital composition books, etc. A sample entry in this 'Physicians' Hospital Report' is as follows: 'December 24th, 1905, Luerctia Nichols, rheumatism.' Some of the other diagnoses in this book are as follows:

Lung troubles,	General run down,
Stomach troubles,	Growing weaker,
Very poor health,	Worse,
Heart trouble,	Failing in health,
Eczema,	Very homesick,
Does not improve,	Poor health and worse.

"The medical records at present are those kept at the infirmary by Mrs. Gertrude Sutter, the nurse in charge; certain items in application papers; the spasm book which records the number of epileptic seizures patients have, and death and burial entries in office records.

"While the infirmary has a modern operating room, there is no operating table there, no cabinet of instruments and no sterilizer. The place is used apparently as sort of a reception room. In the drug store of the main building is a case of cranial instruments and pocket cases.

"There is no laboratory for pathological research. Only chemical examinations of urine are made. No microscopic work is done. Mrs. Sutter, head of the hospital, said there had been two postmortem examinations in the seventeen years she had been at the institution. Those were requested by relatives.

"Dr. H. B. Hoag, recently installed at the institution as the result of a civil service examination, has had modern hospital training. Dr. Taylor said he guessed this young man would do some pathological work, but that he himself and Dr. Young were both lazy.

"The attendants and nurses are recruited from extra employés, i. e., men who cut grass, shovel coal and drive horses, and women who begin service as domestics. As they 'show their fitness,' they are advanced to be attendants and nurses. The only hint of a training school is general instruction given by the doctors to those nurses who serve in the infirmary.

"Sixty per cent. of the patients, as stated in the foregoing, are said by Dr. Taylor to be 'tuberculous.' No attempt has been made to determine the number of cavity cases and segregate them.

"Evidences of shiftlessness appear at the farm. The cow stables are dirty. The hospital barn was so dirty and ill-smelling on April 27 that Dr. Taylor ordered the head farmer to treat it with lime. The henhouse is old and caving in. There are no incubators. The institution buys chickens and turkeys for Thanksgiving and Christmas dinner. The farmer said the hens supplied enough eggs for the employés on the farm. The institution buys eggs. There are 100 cows which furnish all the milk for the institution. The butter is bought.

"The excess population over the normal breathing capacity is 111 patients. A mechanical change of air is imperative. A system should be installed which will furnish warm air at all times without causing undue drafts. This system would do away with steam radiators in the wards." The architect and engineer recommended an expenditure of \$312,000 to put the run-down, antiquated institution on its feet. Special emphasis was placed on recommendations to avert the danger of a fire horror.

The conditions I have just described were found at Lincoln nearly two years ago.

The Board of Charities, on the basis of inspection, recommended that Dr. C. B. Taylor, the superintendent, be asked to resign and that an up-to-date, experienced medical officer be put in his place. Governor Deneen agreed. He asked the Board to assist him in finding a man. He said he preferred some one in Illinois, but was willing to go afield, if

necessary. So far as we could find there was but one man in Illinois who had had experience. He at one time had served as a medical officer in the asylum at Lincoln and previously had been in the noted school at Elwyn, Pa. He now conducts a private institution for the care of feeble-minded called Beverly Farm, located at Godfrey. He is Dr. W. H. C. Smith. He refused to consider the superintendency of the asylum. He had had a taste of politics there in the old days. An attempt was made next through the Board of Charities, upon the request of the Governor, to find a suitable man in some other state. After six months' search it seemed impossible to secure a properly equipped man. It became apparent that a scientifically trained man was reluctant to accept a position in an institution in Illinois, because long term of office could not be assured, because it was believed he would not be given a free hand in the scientific management of the institution, and because it was believed he would be obliged to spend the greater part of his service in business management. I went to New York for the Governor. My mission was not successful. Governor Deneen personally visited a gentleman in Massachusetts and assured him a free rein, but this man declined.

THREAT BY COL. JOHN D. OGLESBY.

During its endeavor to get a man for Lincoln, on Oct. 18, 1906, Col John D. Oglesby, member-elect of the legislature from the district in which the institution is located, asked permission to make a request of the Board. It was granted at once. He stated that Dr. C. B. Taylor was his man at Lincoln, and that he understood the Board of Charities had recommended his removal. He declared that his family was under obligations to Dr. Taylor; also that Dr. Taylor had been hampered by politics. He asked the Board to withdraw its recommendations to the Governor and give Dr. Taylor three or four months to determine his ability to modernize the medieval service and improve conditions generally.

Dr. Billings replied that the Board had acted officially; that it felt Dr. Taylor was not competent to bring the institution up to a modern level of efficiency, and that it would be useless for the Board to postpone a manifestly necessary retirement.

Thereupon Colonel Oglesby said: "Well, you, of course, understand that your refusal makes the issue one of politics. I shall have to resort to political methods and fight your Board."

Dr. Billings replied that he regretted such decision on Colonel Oglesby's part, but the Board of Charities could not change its mind in view of the disclosures of its inspectors.

The trustees at Lincoln, with the approval of Governor Deneen and of the Board of Charities, appointed Dr. H. G. Hardt, in January, 1907, to succeed Dr. Taylor. Dr. Hardt had served as a medical officer at Kankakee, Jacksonville and Elgin. He had given complete satisfaction to his superiors. He was known as a man capable of and desirous of informing himself upon the question of the management and treatment of feeble-minded children. He was assured that, if he ac-

cepted the place, he would be given the support of the Board of Charities in rebuilding the asylum. He was advised to make a survey of his institution to satisfy himself of the conditions and to urge upon his trustees the importance of improvement in its physical condition; to organize his medical, nursing, attendant and teaching force, and to try to instill into each employé a sense of responsibility in the care of the helpless inmates. In the face of insufficient funds from the legislature and a pestiferous local political fight and disloyal employés, Dr. Hardt has made great progress. A detailed statement of what he has done is in the hands of the House investigating committee.

COLONEL OGLESBY GETS EVEN.

In due course the appropriation committees were appointed. Colonel Oglesby was named as second to the chairman of the house committee. When the appropriations recommended by the State Board of Charities were reached superintendents and trustees of the several institutions were invited to explain the items. The Board of Charities, the architect and the engineer, so far as I am aware, never were asked to explain. Colonel Oglesby did most of the questioning. One question frequently asked by the colonel of superintendents and trustees was:

"Do you consider that you or the Board of Charities is best able to pass judgment upon the needs of your institution?"

The usual answer was unfavorable to the Board of Charities.

I never heard this question asked:

"In view of the fact that your institution is one of the seventeen in the charitable group, do you consider that you are or that the Board of Charities is best able to pass upon the relative needs of your institution?"

That was the fair question to ask.

Colonel Oglesby also persistently sought to have superintendents and trustees discredit the Civil Service Commission. I was told that superintendents and trustees were questioned before they appeared in committee to ascertain how they would answer publicly. Those that would not give the answer wanted were not asked the questions.

Colonel Oglesby was on the subcommittee on what is known as the omnibus bill, which fixes the appropriations for boards like the Board of Charities. I appeared before this subcommittee and presented a written statement of the needs of and made an argument for a sufficient appropriation for the State Board of Charities. It was shown that under the present board the work of the office had increased four-fold and that we could not perform our legal duty without more money. In painstaking details it was shown that on the basis of like service in New York state, Illinois, according to its population, should have thirty employés in its Board of Charities service instead of nine, and that its annual appropriation should be \$93,000 instead of \$16,500. On a similar basis in Massachusetts, the Illinois Board of Charities should have 174 employés and an annual appropriation of \$222,000 instead of \$16,500. The board did not ask the committee to favor placing Illinois

at once on a level with the eastern states named, but asked for \$39,000 a year and \$4,000 to make an exhaustive study of public charity administration, \$1,200 for metal filing cases for its dust-covered, rotting institution records, \$500 to complete and index its deficient and uncatalogued statistical and historical library and some small amounts for other items. The House passed the omnibus bill without increasing the appropriation for the Board of Charities one cent. In a special law it increased to \$1,500 the salary of Charles Virden, the state agent for the visitation of children, who works under the direction of the Board of Charities, but so crippled is his department for lack of incidental funds that he will have to abandon some of the work and let the little children go unvisited and unprotected.

At the last moment, as the result of a personal appeal by an agent sent by Governor Deneen, when the appropriation bills were in conference, that the Board of Charities be given enough money to do the work required of it, the legislature added \$2,000 a year to the board appropriation, making the total yearly amount \$18,500 against \$39,000 asked, not mentioning the specials, which were cut out.

But Colonel Oglesby and others like him played the political game as threatened when Dr. Taylor was removed. They had made it impossible for the Board of Charities to carry out its plans for a thorough administration of its particular work. By courtesy of Governor Deneen and by gift of the Secretary of State, Mr. Rose, we are able to print and circulate a *Bulletin* for the information of the public, and the larger part of our additional \$2,000 goes for postage stamps to carry these *Bulletins* to you and others interested in public charity administration. We asked the legislature for edged tools to carry on the work of this office. Apparently the legislature replied: "Use your finger nails." This is what we are doing. And yet David E. Shanahan, chairman of the House Appropriation Committee, testified before the Legislative Investigating Committee here in Chicago that "up to the present time the Board of Charities to a great extent has been an ornament." How do you harmonize that statement with the act of the legislature in refusing to give a board which is not ornamental enough money to do its work?

But Colonel Oglesby was not through yet. He was after Dr. Hardt at Lincoln, too. So after the Giroux boy was accidentally burned there during an epileptic seizure on a radiator that would have been thrown away long before had money been at hand for a modern ventilating and heating system, Colonel Oglesby was active during the early days of the investigation when scullery gossip and the complaints of discharged employes held sway. The inquiry at Lincoln became a one-sided political farce played to defame Dr. Hardt and those who were responsible for his appointment.

SPEAKER SHURTLEFF RIDICULES MEDICAL PROCEDURES.

There were other men in the legislature who fought the Board of Charities from the first. Please remember that I speak of these men

officially and not personally. I will mention one of them, because he was the open enemy of much of the progressive medical service recommended for the state charitable institutions. I mean Edward D. Shurtleff, Speaker of the House.

On Feb. 1, 1907, Frank Eaton Chamberlain addressed a letter to the legislature suggesting that "if the Salvation Army were employed to go three times a day and pray at the insane asylums it would save thousands of dollars to the state." The letter went on to praise the Salvation Army as "earnest Christian workers." It stated that the Bible said, "There is no other way to heal the mind except by prayer and fasting," and that the employes of the hospital "were not praying but dangerous people." Mr. Chamberlain suggested that prayer and fasting would keep such employes out and "save millions of dollars" to the state. He asked the legislature to act on his plans.

The Chicago Inter Ocean, an avowed enemy of Governor Deneen and the Board of Charities and considered the organ of Mr. Shurtleff, had this in its issue of Feb. 8, 1907: "Speaker Shurtleff took occasion, in replying to the prayer advocate's letter, to indicate that in his opinion it would be as efficient a cure as the so-called 'fads and fancies' employed by the State Board of Charities."

I was told that Mr. Shurtleff made such public announcement from that tribunal of impartiality, the Speaker's chair. However that may be, the following is printed in the *Inter Ocean* on February 8 as the Speaker's answer to Mr. Chamberlain: "I am in receipt of your letter of February 1, and the recommendations that you make will be fully laid before the State Board of Charities of the State of Illinois. They are trying many new so-called 'fads and fancies,' and I am inclined to think that, while you have nothing substantial to offer to them, they at least ought to give it their consideration."

The records of the House show that this matter was referred to the House Committee on Public Charities and returned without recommendations. If it had been referred to the State Board of Charities, it would have received a courteous answer that would not have assailed the psychopathic institute nor hydrotherapeutic treatment, nor would it have betrayed a lack of appreciation of the noble work of the Salvation Army, nor the psychic value of prayer when one prays with faith.

SHURTLEFF OPPOSES: THE HOUSE FORBIDS CLINICS.

But this was only Speaker Shurtleff's first attack upon the application of modern medical methods for our state charitable institutions. Next came the psychopathic clinic mentioned in your announcement of to-night's meeting. As I stated a few moments ago Dr. Podstata had started a clinic at Elgin. The Board of Charities had recommended such clinics in all state hospitals for the insane for the instruction of local practitioners in the several hospital districts of the state. The Board realized that medical colleges do not give thorough practical instruction in mental and nervous diseases. Hospitals for the insane are remote, as a rule, from centers of medical education. So, for the benefit

of the families treated, it was decided to make free access for physicians to the rich and varied clinical and pathological material offered in the hospitals. It was figured that there were 58,000 mentally and nervously unstable persons in Illinois who at any time of stress would need expert medical service and advice. The first duty was to educate the practitioners of the state. Dr. Podstata had begun his benign work for the Fox River Valley Medical Society when Mr. Shurtleff intervened. The records show that the Speaker laid before the House on Feb. 14, 1907, the resolution forbidding clinics at Elgin and by inference elsewhere. It was referred to the Appropriation Committee, although the expenditure of money was not involved. The resolution briefly stated: "We do hereby condemn the said practice of holding clinics in the said institution, and we, the members of this House, especially condemn and protest against the series of schools and clinics as organized and put in operation and attempted to be organized and put in operation by the said superintendent of the Northern Hospital for the Insane at Elgin, Illinois."

This time the Board of Charities was invited to attend the meeting of the committee. The hearing on February 27 occupied four hours. Speaker Shurtleff alone spoke in favor of the resolution. He spoke briefly. The theme of his argument was that he could find nothing in the statutes to indicate that patients in hospitals for the insane can be used for educational purposes. Arguments for clinics were made by Dr. V. H. Podstata, the superintendent of Elgin; Dr. James L. Greene, the superintendent at Kankakee; Dr. Emil G. Hirsch, of the State Board of Charities; Dr. George W. Webster, President of the Chicago Medical Society and President of the State Board of Health; Dr. J. L. Percy, President of the Illinois State Medical Society; Dr. Frank P. Norbury, of Maplewood Sanitarium, Jacksonville; Dr. L. C. Taylor, of Springfield, Chairman of the Legislative Committee of the Illinois State Medical Society, and Dr. Carl E. Black, of Jacksonville. All these gentlemen presented scientific and humane arguments in favor of clinics. Some of them referred to the clinical opportunities offered by the state in Indiana and by other states as well as abroad and intimated that it was time for Illinois to leave the backwoods of science and take the advanced position its wealth and progress in other directions demanded. All to no purpose. Some of the speakers were badgered with silly questions. One speaker was insulted. The next day the committee reported the resolution favorably. The House passed it without a dissenting voice. Some of the newspapers declared this act was a triumph of Mr. Shurtleff over Governor Deneen, who had used his powers of moral suasion fruitlessly to have these resolutions quietly put to death in the interest of the public welfare.

FIRE RISK AT ELGIN.

Elgin again was a storm center when Dr. Billings, on the report of the architect and engineer, pronounced Elgin a fire trap. The Appropriation Committee investigated and finally allowed many of the items looking to greater safety from fire, but the trustees spent \$9,000 out of the maintenance fund for fire protection, and state that \$12,000 more is

needed now "for replacement of inefficient and dangerous electric wiring." I have not time to-night to go into the unpublished details of the fire situation as reported at Elgin by Dr. Podstata when he went there and later by the architect and engineer.

THE FIGHT ON GOVERNOR DENEEN.

As the legislative session advanced the feeling against the Board of Charities grew. Little by little the story came to us that the fight really was not on us at all, but was on Gov. Deneen; that he was being whipped over our shoulders. Finally the charitable institutions became a sharp political issue. The enemies of Governor Deneen apparently sought not to fully rehabilitate the service in the confidence of the public, but to do as little as possible so that Governor Deneen would not get the credit for putting the charity service firmly on its feet. Some persons were unkind enough to assert that the legislature appropriated only what it was forced to.

BILL FOR COMPLETE STATE CARE.

There were two brilliant exceptions to this reactionary policy—the bill for the complete state care of the insane and the appropriation for the Psychopathic Institute. The Board of Charities uncovered so much filth and horror surrounding the care of the insane in some of the county poorhouses that the recommendation of Governor Deneen and the Board was honored by the anti-Deneen men who aided in the passage of perhaps the most important piece of charity legislation within a generation. The Board of Charities claims no special honor for the achievement. The state, since the service of Dorothy Dix, 60 years ago, had been working toward complete state care. It remained for the present Board with the help of others in authority to secure the final declaration that Illinois as quickly as possible will forever empty county poorhouses of the insane, and that when certain necessary steps have been taken county officials will be forbidden by law to keep any insane person in a county poorhouse.

This legislation means much to the medical profession and to their patients. It means that the State in due course will take over the Dunning Hospital for the Insane and establish there, close to your great Chicago medical colleges, a clinic in psychiatry that we hope and expect in due course will take its place among the great institutions of learning of the world. When the reactionary official Shurtleffs cease to interfere clinics will be established at every state hospital for the insane in Illinois and the doctors throughout the state and their precious patients will reap the reward vouchsafed by science.

SUMMARY OF BOARD'S WORK.

The subject assigned to me to-night is "What the State Board of Charities Is Accomplishing." Let me give you a statement in tabloid form of some of the things it has accomplished, what it is accomplishing and what it hopes to accomplish. In listening to this recital of short paragraphs I earnestly ask you to remember that the Board of Charities is an advisory, not an executive board, and that all it has accomplished

and hopes to accomplish has been and must be done through the Governor, institutions' superintendents and trustees and the legislature and at times in the face of such handicaps as have been mentioned in this paper. The items are as follows:

1. Establishment of compulsory training schools for nurses and attendants to teach persons how to take kind and intelligent care of the insane and feeble-minded.

2. Water treatment for certain kinds of acute insanity installed with beneficial results at Kankakee and Elgin. Other hospitals to establish hydrotherapeutic apparatus mostly in new hospital buildings.

3. Industrial re-education increased, and plans adopted for much more general employment of chronic insane in the near future.

4. Amusement and recreation for the insane increased.

5. Women in charge of nursing forces and in many wards where men are kept. Women are natural nurses.

6. Uniform exhaustive medical records established, as against former loose, unsatisfactory and incomplete separate systems.

7. Dental and other internes employed.

8. Business managers recommended to relieve medical superintendents of the details of business administration.

9. Erection begun of modern hospital buildings not only for the acute insane, but for the physically sick insane.

10. Arrangement for erection of new asylum for insane criminals to replace the unsafe, insanitary and ill-located institution at Menard.

11. Directed the inspection of Joliet prison which resulted in an appropriation of \$500,000 toward a new \$3,000,000 penitentiary to replace the old insanitary prison.

12. Old insanitary wooden beds in hospitals for the insane replaced by clean iron beds.

13. New cottages for soldiers and their wives at the Soldiers' and Sailors' Home and a hospital for the wives.

14. More efficient manual education of the feeble-minded children at the Lincoln Asylum. Modern medical and nursing service installed there. Gymnasium provided. Physical rehabilitation advanced in spite of legislative discouragement.

15. Increasing the capacity, facilities and safety from fire of the State Training School for Girls at Geneva.

16. Increasing the capacity and facilities at the Illinois Charitable Eye and Ear Infirmary at Chicago.

17. Progressive improvements at the school for the deaf at Jacksonville.

18. Increase of facilities at the School for the Blind at Jacksonville, including an appropriation for an isolation hospital.

19. Provision for circulating library for blind persons in Illinois.

20. Assisted State Board of Health in securing free diphtheria anti-toxin for the state institutions and the public.

21. Preliminaries for a much needed state sanatorium for curable consumptives and for the dissemination of knowledge regarding this

great scourge which is taking 10,000 lives annually in Illinois. Appropriation of \$150,000 refused by the legislature to build the proposed institution at once.

22. Plans for extending the work of visitation of children placed in family homes and inspections of the facilities and methods of child-saving societies and orphanages. This department suffers severely from lack of sufficient money.

23. Increasing the capacity and facilities and safety from fire of the St. Charles School for Boys at St. Charles. A new hospital building provided. The Commercial Club of Chicago has given \$50,000 for a new gymnasium now completed.

24. Appropriation of a working capital for the Industrial Home for the Blind, to give this institution a fair opportunity to demonstrate its right to exist.

25. Sought an appropriation of \$265,000 for the creation of an epileptic colony. The legislature refused it. If the State had followed the example of progressive states and established this colony years ago the low-grade imbecilic epileptic boy, Frank Giroux, never would have been burned on a radiator at Lincoln.

26. Changing the former Asylum for Incurable Insane into a district hospital to receive all kinds of insane, removing the legal declaration that all patients in this institution are considered incurable. Such is not the case.

27. Beginning of a thorough rehabilitation of old buildings and mechanical equipment, looking to a greater safety of inmates from fire and disease, to their general well being, and further looking to the more economical operation of institutions through installing modern, money-saving apparatus. Taking Kankakee Insane Hospital as an example, for the first time in its history there is now provided an adequate supply of pure water. Modern chain grates have supplanted hand firing in the power house, effecting economies in fuel. A modern system of heating has been installed, and so much more has been done that all can not be told in a short statement. This work has been done on the recommendation of experts of recognized ability, thus introducing the modern standard of business method.

28. New court interrogatories in insane cases promulgated, looking to thorough information at first hand regarding insane patients, so that suitable treatment can be provided at the earliest moment, looking to the best results.

29. Establishment at Kankakee of the State Psychopathic Institute, under a competent director, for the education of physicians in the state service and for research regarding mental and nervous diseases. Best laboratory equipment the world affords purchased. Local branch laboratories established in institutions in the insane group. The system for the hospitals for the insane now in use in Illinois is the equal of any system anywhere except for clinics, which the House forbade.

30. Plans legalized for gradually removing all insane from county almshouses to modern state hospitals, the last link in the chain whose

forging was begun by Dorothy Dix sixty odd years ago. In justice to the taxpayer, complete state care of the insane will be conducted ultimately upon a basis of reimbursement to the state for the cost of treatment and care from those patients who are able to pay, or whose relatives are able to pay, or whose friends are willing to pay. All patients who are not able to reimburse the state in any amount will receive without charge the same treatment and care they would receive if they paid.

31. Scientific farming and gardening, greatly increasing the quantity of produce raised, thereby saving the expense of buying it. As a sample, Elgin has saved as much as \$350 a month by producing all its milk instead of buying it, and its butter bills for a given month were cut from \$750 to \$227.

32. Uniform medical and nursing service in all hospitals for the insane. Reciprocity with general hospitals inaugurated. Increase in number of employes. Increase in pay up to 33 $\frac{1}{3}$ per cent. increase. Fewer hours of employment. Differentiation between the nurse in care of the acute and the physically sick insane and the attendant in charge of custodial cases.

33. General encouragement for high grade men and women to enter the state service.

34. Generous areas of land added to the holdings of several institutions for farm purposes.

35. Law for opening the doors of the Soldiers' Orphans' Home at Normal to orphans not the orphans of soldiers, giving preference to children (about 100) living in the shocking surroundings of the poor houses; also extending facilities for manual education at Normal.

36. *For the first time in the history of the state requiring superintendents of hospitals for the insane and feeble-minded to report on special blanks all injuries to patients, so that the board will know how many accidents occur and where the most accidents occur in the expectation of localizing responsibility and eliminating the causes of preventable injuries. A canvass of the United States and Canada shows that very few boards like ours require reports of all accidents, and that where they are required and reported conditions are no better than in Illinois.*

37. Preliminaries looking to the recommendation to the Governor and the Forty-sixth General Assembly of a modern system of public charity administration suitable to Illinois, which will seek to effect economics in the interests of the taxpayer and to provide more efficient care for the wards of the state.

PUBLIC CHARITY ADMINISTRATION.

This last item is now a matter of critical interest because of the tendency of the present House Investigating Committee to advocate the abolition of the Board of Charities and the creation of a Board of Control. The Board of Charities has been studying the question of administration for nearly two years. The problem is of great magnitude. Some of the most experienced minds differ radically and very earnestly re-

garding what is the best form of public charity administration. Realizing this, the Illinois Board of Charities asked the legislature for \$4,000 to make an exhaustive study of this subject in America and abroad and to print and submit to the Governor and the next General Assembly a report and recommendation of what seemed to be the best system of administration for Illinois. The legislature refused to appropriate this money.

Although deprived of funds, the Board of Charities last October, having completed its other fundamental recommendations, authorized Dr. Billings to appoint a special committee, including successful business men and philanthropists, to devise a new system and submit it to the Governor and superintendents and trustees next October for discussion. It is intended to present the result of that conference to the Forty-sixth General Assembly for its consideration.

I do not know what the Board of Charities will recommend. Nobody knows. Time and study alone will tell, because the result, if possible, should be a system strong enough and elastic enough to meet the needs of Illinois for fifty years. Above all things the problem can not, in the board's judgment, be decided after a superficial study of a few weeks or months.

Various systems are in operation in various parts of this country and elsewhere. But one thing is clear. Whatever system has worked well has done so exclusively through the character and competency of the persons at the helm. Where absolute independence from politics and permanency of tenure are vouchsafed the results of divers systems have been good. Where this has not been the case even the best system has not proved fully satisfying.

When the Board of Charities was organized in 1869 there were five institutions. To-day there are seventeen, an increase of twelve, or 240 per cent. of increase. The biennial appropriations for 1869 and 1870 for the five institutions were \$637,711. For the present biennial period they are \$6,588,402, an increase of \$5,950,691, or 934 per cent. of increase. In 1869 the total population of the institutions was 1,061. In 1908 the total population is 15,518, an increase of 14,518, or 1,368 per cent. increase. For the period of 1869-70 the appropriation for the Board of Charities was \$10,000. For the present biennial period it is \$37,000, including \$9,000 for a new department of child visitation, which is outside the work in state charitable institutions, an increase of \$27,000, or 270 per cent. of increase. Thus it is apparent that the work of the Board of Charities has increased enormously over the facilities afforded it to do the work prescribed. It is making bricks without straw! It has heard the voice of Jacob and felt the hands of Esau long enough, God knows! The work will increase. The work is gigantic. A good start has been made. We are all proud of Illinois. She has spent \$52,300,000 to provide for her charity wards in seventeen institutions. We know that her people, realizing the truth about their hospitals and schools, will praise and defend their many good points and will pour out more money freely to bring to fruition plans for improvement.

Humanitarian obligations are coming to be understood better and more profoundly with every rounding of the years. None can foretell what new measures in the near or more remote future a state abreast of the new spirit of consecrated philanthropy will have to enact in the care of the dependents and the cure of the sick. The task before our people might well stagger the state, were politics and petty selfish factionalism to obscure the vision or to point out the way. Philanthropy knows no party livery. It follows the one banner, love of man for man. Its watchword is the appeal to the strong to come to the aid of the weak. For whatever is done for the least of our brothers is done under devotion to ideals brighter than any that party strife and party prudence may point to. In that spirit Illinois will proceed.

THE MEDICAL ADMINISTRATION OF STATE CHARITABLE INSTITUTIONS.*

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Medical Superintendent Maplewood Sanatorium.
JACKSONVILLE, ILL.

During the past decade, there has been gradually developing in the medical world a clearer recognition of the relationship which should exist between the medical profession and state charities and a fuller appreciation of the services being rendered in a medical way in the state charitable institutions. The attainments of this service, even to the present with its broadening view of the possibilities of clinical research and advanced medical thought, have not been accomplished without difficulties. The evolutionary growth, past and present, has been and is slow because the problems from the very beginning have been educational, in principle at least. You and I know that in all educational problems the sifting out from the mass of ordinary accumulation of facts, of the real truths, requires time and endless patience, and in the meantime people perish for the want of knowledge.

Our profession of medicine has time and time again traced, as Huxley says, "the path which has been followed by a scientific idea, in its long and slow progress, from the position of a probable hypothesis to that of an established law of Nature." In this progress we have seen, what seems paradoxical to say, "that the attainment of scientific truth has been effected to a great extent by the help of scientific errors." Especially is this true in the evolution of clinical psychiatry in which the state is very much concerned, not only in the medical aspect of this field of clinical medicine, but in the sociologic and economic features as well. It is in this great field that state charities find a preponderance of demands for service; it is in this great field, according to Dean Davenport of the Illinois College of Agriculture, that the bulk of state expenditures are directed, and it is in this great field that modern research in the new

*Read before a joint meeting of the Chicago Physicians' Club and Chicago Medical Society, March 13, 1908.

psychology is seeking for that ounce of prevention which modern preventive medicine teaches us is an economic possibility. The medical administration of the state charitable institutions, we thus see, especially those in which the medical features are paramount, is a question of fundamental importance and one in which we as physicians and as citizens of this great state are very much concerned, whether we want to be or not. It is a question which confronts us, "a condition, not a theory," and one from which we can not seek a refuge in blissful ignorance, trusting to the wisdom of others to solve its perplexities.

The public is vitally interested because their loved ones are subjects of the service which our state has to offer, and we who are supposed to know about this service and to recommend it when necessary to the individuals applying to us for advice are servants of the public; hence we must be informed. It is estimated by Spratling that the benefits to each patient under care in our charitable institutions approximately extends to five other persons, and upon this basis of estimate the 13,300 individuals outside of penal institutions receiving service from the state extend their benefits to 66,500 individuals. Is it not time, therefore, that we medical men should be informed that we may intelligently discuss these institutions and be able to appreciate the service which they are rendering to humanity?

To present to you briefly the present status of medical administration of state charitable institutions is my mission here, and in doing so I appear before you as a critic, asking you to accept this term in the fullness of its meaning, viz.: "One who judges the merits of a production, one who draws distinctions"; and not to regard me in the too frequent application of the term, critic, as one who is inclined to cavil or find fault, exacting, captious. Inasmuch as my experience has led me into the medical service of these hospitals for the insane, and institution for the education of the blind, I believe that I can express from a non-partisan standpoint some views regarding the medical administration of the state charitable institutions.

First, let me consider the hospitals for the insane, organized and equipped primarily for the treatment of mental diseases; and, secondarily, arranged as custodial institutions for the insane. Unfortunately, the public, and the medical profession as well, forget the primary object of our state hospital service and are disposed to consider the insane wholly from the standpoint of custodial care. This is unfair, unjust and gives discredit to the service which the state has created at a great expense and offers to the public at a nominal cost per capita, and which if utilized as it should be, early, and during the borderline states of mental disease, would relieve in a great measure that increasing burden of what Dean Davenport calls the non-producing interests of the state. It is the abuse of this service which makes it apparently protective instead of productive and would be productive in prevention of chronic mental invalidism if it were better appreciated by the medical profession, in whose hands largely rests the question whether or not this service shall be utilized. I hold that the revenues contributed to this service of pre-

vention will never impoverish our state as Davenport suggests, for, as Blumer of Rhode Island well says, "No state was ever impoverished by making adequate provision for the insane and nothing short of the best is adequate for its dependent or partially dependent sick."

It is the object of the State of Illinois to provide adequate service, and nothing short of the best will be considered adequate by the State Board of Charities, which board recognizes the fact that just as the faculty of teachers is the real foundation for successful work in an educational institution, so the superintendent and his assistants must ever be the chief source of strength to the hospital. To develop this feature, at least as a future possibility, the civil service in our state institutions was created and through it there is being recruited a staff of assistants which in time compare favorably with any other staff in the United States and will enable us to overcome the criticism paid us by an English confrère, who said, "The hindrances to progress in state care of the insane in the United States are, first, frequent changes in the medical administrative staff of hospitals, following changes in the political administration; the insecure tenure of office and the inadequate compensation for services, which deter young men from entering and preparing themselves for this department of practice."

Illinois, through the recommendation of the present State Board of Charities, has equalized salaries and is endeavoring to create a wholesome professional dignified service in keeping with the high calling of this department of medicine, which, if I do say it myself, demands for true service the best qualities of manhood, versatility of intellect and robust health. The systems of administration in the various hospitals of the state are very much alike, save where differences in locality, size, construction, traditions and the personality of the superintendent modify and produce local color and create individual problems. The superintendents are the medical officers in chief as well as the administrative officers in chief. Inasmuch as their duties directly or indirectly converge to the ultimate point of treatment and care of the patients, a medical training is paramount.

Further, the future is going to require that medical superintendents should be trained men who have passed through the junior grades of service in the hospitals and whose fitness must be judged on merit alone, just as in the promotional service in the operative department of a great railroad system. Modern service in public utilities, in manufacturing, in commerce, in transportation and all active fields of service where competency is considered as the criterion of service, we notice that it is the trained man who is in demand and who is discharging the service with profit and progressive accomplishments. Why should the state suffer in the efficiency of its service at the hands of untrained men? This argument is unanswerable save to create a political asset, which in this day and age in the evolutionary conception of civic and state duty is a flimsy pretext and a reflection upon the good sense of the people who will not stand for such usurpation of the rights and privileges to which they are entitled, rights and privileges of the best service possible at the

hands of the state government. In keeping with this belief in trained men for the service which the state gives the people, Illinois had to go out of the state to fill the vacancy created at Kankakee, which institution, as you know, is capable of standing at the front in clinical service, research work and superior organization.

Again, to perfect the real medical service of the state institutions in clinical psychiatry, research in psycho-pathology and to put the state on a footing of advanced work, the Psychopathic Institute has been created for the purpose of giving advanced instruction in clinical psychiatry to the medical staff of the hospitals of the state and to promote research work in this great field of clinical medicine. This institute, now organized and about ready to begin its work, is located at Kankakee in connection with the state hospital and under the direction of Dr. H. D. Singer, who writes me that the organization of the instruction to be given there will be closely along the lines established by Dr. Adolph Meyer, of the New York Institute. First will be the methods of examination of patients and keeping the records of the same. Then a clinical department is to be organized for use in collecting material for teaching and observation in the more systematic courses of clinical psycho-pathology. Laboratory courses for teaching ordinary clinical laboratory methods will be a feature of this instruction.

The creation of this institute is one of the great events in the history of the treatment of the insane in Illinois. To me it marks an epoch in history of equal importance to the creation of additional service by the erection of other hospitals than the one at Jacksonville. It is an epoch that marks the clinical era of psychiatry in Illinois, an achievement in Illinois which, alas, superintendents of more than twenty years' service can hardly appreciate, for it is a fact that up to ten years ago, perhaps less, and perhaps even to-day, some superintendents were more concerned in hospital construction and per capita cost than in the classification of the curable from the incurable, the clinical psychology of cases under observation and the significance of modern conceptions of pathological chemistry as of etiological value in the study of mental diseases.

There has been a revolution in the clinical study of mental diseases, encouraged and evolved, too, by superintendents of state hospitals. We only have to go to our sister state, Indiana, to see what has been done and is being done in this great and promising field of clinical psychiatry, and that, too, fostered by the state. Let me quote you what the enthusiastic superintendent, Dr. George F. Edenharter, of the Central Indiana Hospital for the Insane, has to say regarding the importance of a pathological department in a state hospital:

"I would like to be recorded as stating that this is of such great importance, in my opinion, that were it to fall to my lot to organize and construct a new institution for the care of the state's unfortunate insane, I would build and equip, as an adjunct, a department for pathological and other scientific investigations before commencing the construction of the administrative building or kitchen, or, in other words, I would deliberately place the new institution in such a position that the recep-

tion of patients or other business could not commence until every preparation had been made for the scientific prosecution of medical work and this as complete as the most advanced thought and modern methods could make it." "If the state assumes the liability of care of these poor unfortunates, it is her plain duty to provide every facility deemed essential for the proper treatment of these people. To successfully accomplish this object she must of necessity furnish to her institutions a complete equipment for the examination and study of these cases and their diseases during life and a department fully equipped where the investigations and study may continue after death."

This superintendent, wise ahead of his time, also said: "The pathological department of this institution, as outlined in the beginning of our work in this direction, was established for the purpose of providing the hospital staff with the facilities for scientific work directly connected with their cases on the wards, essentially as an aid to diagnosis. In addition (now mark what he says), it was deemed advisable to extend its opportunities to the outside physicians and the students of our medical colleges." This in Indiana in 1899, and now after several years of operation, listen to what the trustees of this institution have to say: "The wisdom of the establishment of this department is becoming recognized more and more as the work therein continues, and while at the time of its erection and establishment it was entirely a new departure in hospital management, yet to-day it is taken advantage of by the medical profession of the state, and medical students receive therein a course of practical instruction with apparatus and facilities for work more complete than can be found in any medical college. It does not require a professional mind to be able to appreciate the value of the work outlined in this department."

The State of Indiana, at the suggestion of Dr. Edenharter, erected at the Central Hospital for the Insane a building designed wholly for the purpose of research, clinical study and instruction; an amphitheater is provided, ample clinic rooms and laboratory rooms are provided, and, in addition, courses of lectures before physicians and students delivered by members of the staff and the clinical professors of nervous and mental diseases of medical colleges; a complete roster detailing the cases exhibited, etc., is published for distribution to those interested. And yet we are told clinical teaching of psychiatry is inhuman and unnecessary. I answer, where ignorance is bliss in mental diseases, it is the duty of those who know, to be wise and endeavor to lift this cloak of ignorance off of the body politic.

Illinois will not be satisfied until we get the privilege of clinics at each and every hospital in the state, not only the privilege, but make it a duty of the staff to be prepared to be clinical teachers in this much benighted field of practice. We are on a campaign of education, so much needed in Illinois to let the people know, the medical men know, what they ought to know about mental diseases.

The service in Illinois, too, has been marked by another epoch in the introduction of training schools for nurses in the state hospitals. This

is an innovation which the superintendents of twenty years ago would have thought impracticable. That it is to be the solution of many of the clinical problems concerned in the direct treatment of patients, no one familiar with this special field of practice can doubt. I am convinced that the growth of the hospital idea is an important necessity, and just in proportion as the hospital idea prevails in the treatment of recent cases of mental diseases will be accomplished the real mission of treatment for which these institutions were primarily designed. The modern hospital idea regards the recent mental case as acutely sick, and indications for treatment include a period of bed treatment with special nursing, and to this humane and scientific conception of mental disease is due the discarding of mechanical restraint, except, incidentally, where for special reasons it is necessary. I attribute the passing of the era of restraint to the introduction of the hospital idea with trained nurses and attendants. Hospitals are hospitals now in service as in name, though their overcrowded condition handicaps the work in this special feature. Nurses are a part of the equipment, a living potentiality for good, a humanizing agent and a sociologic and economic necessity. The development of the training school for nurses will lessen per capita cost more than any other economic measures and increase the recovery percentages beyond the most sanguine expectations. I am a believer in trained nurses in the special field of mental nursing; it is the correct principle; it means individualizing in treatment, character study, re-education and regrowth of personalities. To make nursing effective a vigorous persistency of psychological analysis of cases will be necessary on the part of the clinician, and here is where the resident psychologist, trained in normal and abnormal psychology, is to come in and be a part of the staff of the hospital. This means records which have a value; records worthy of the name; records worthy of the time and patience of the observer; records of accumulative value in their ultimate purpose of scientific research and deductions. Illinois has made a step in this line of promotional work in psychiatry by adopting uniform records for all hospitals, and now when they introduce system to the observations these records will be of permanent scientific value.

In the practical treatment of mental diseases there is much to be done; it is a field that needs to be fertilized with new blood, enthusiasm, such as is found in the constructive years of a physician's service between 25 to 40 years of age and with the aid of the matured judgment of clinicians who can advise in diagnosis, the treatment of mental diseases in our state hospitals ought to prosper. The medical staff of the hospitals should be thoroughly organized so that each individual member may help and be helped in discussing problems, essentially clinical, viz.: diagnosis, prognosis, treatment, etc. Here the beginner will receive help and will not have to dig it all out for himself, but will have the counsel of more matured and experienced clinicians. Staff meetings should be held daily, at which time not only the cases recently admitted are discussed, but those slated for discharge should be discussed. This is important

and equally so with diagnosis; it will give stability to service and support to the superintendent.

There must be co-operation in the medical staff and organization for the purpose of mutual help in developing the work which it is the purpose of the psychopathic institute to promote and foster. Then this same co-operation and united effort should be applied to the teaching of the pupil nurses in the training school. In order to secure the full efficiency of service in the clinical work of the hospitals it will be necessary to increase the medical staff by the creation of more positions for junior assistants and medical internes, and to readjust the services of nurses, especially in the care of recent cases as based upon the hospital idea. Also will it require a reorganization of ward service so that the curable and the chronic cases can be more advantageously separated, while whole wards should be organized as psychopathic wards conveniently arranged with appliances needful to promote the best service possible for the cure of the mental disorders.

I like that word *cure* to be presented prominently in the minds of all concerned in handling recent mental cases; it is a word which tradition alone should have appear in the embodiment of the purpose of hospitals for the insane because the first hospital established in this country, the Pennsylvania Hospital, had in the act creating it these words: "For the reception and cure of lunatics." This institution, which had Benjamin Franklin for its secretary, Benjamin Rush for its superintendent in its early history, and later Thomas Kirkride, superintendent for forty-seven years, has always fostered the *cure* idea, and it is one which I wish to impress upon you as the true conception of our modern hospitals.

Time will not permit me to dwell further upon the state hospitals, but before passing from this part of my subject let me say that from my observation and knowledge of the service in this state I am sure that it is better organized, better equipped and more thoroughly in accord with the true spirit of service than at any time in the history of the state. The potential factors making this possible are civil service applied to these great institutions; the organization along the line of the hospital idea; training school for nurses and the keeping of uniform records; the psychopathic institute for the purpose of developing the essentially clinical side of the work and the thorough administrative service in looking after the details of hygienic, economic and thorough internal and external management. There is yet much to do in perfection of the details of internal management along contributory medical lines, viz.: the individualizing of diet, the baths, the massage and other physical means of treatment. I look forward to the time when each institution will have added as aids to its medical staff a resident psychologist, a dietitian, a director of massage and physical training, a director of manual training, a trained teacher of agriculture, etc.

Now, as to the medical service in other state charitable institutions, I can not discuss, except as I know of it in the state educational institutions for the blind and the deaf. My criticism, based on personal experience and observation at the institution for the blind, is that it has

not been adequate to meet the demands in times of epidemics. Further, it is of such importance and the dangers of epidemics so marked, both in the direct dangers of disease and the disturbing influence in school work, that there should be reorganization to meet these pressing demands.

A hospital modern in its completeness and size to meet the emergencies as well as the ordinary service should be provided. Further, the service is allied to that found in any institution where individuals under average in health or development are assembled, and to meet the possible demands under such circumstances there should be a junior physician, resident in the institution, to assist the attending physician in the details of his work.

Further, the attending physician should be paid adequate salary in keeping with the responsibility and time required for such service. I am afraid that there is a tendency in all educational institutions to not appreciate the medical questions or service which are ever conspicuous in these institutions. What medical inspection has done for our public schools should impress us with what can be done for our state schools where resident pupils are congregated. Money spent in hospitals is of more real practical value in returns along the lines of the true mission of such schools than for elaborate barns and out-buildings.

In conclusion, let me say that as medical men we should be personally interested in the medical administration of state charitable institutions; let us be guided by the real purpose of our calling when considering their needs and lend a hand to help them in their work. Then, too, the superintendents and medical staff should show their interest in the profession outside of the institution walls, they should be in touch with the profession through the medium of the medical societies, local, county, state and national; the more public they make themselves known along professional lines the more confidence the medical profession will have in them and a true professional friendship will be established. The superintendent should know that just as in private medical life the true standing of a medical man is that what his own profession thinks of him. I do not mean the local jealousies and backbiting of rivals, but the honest level which is made for each man by the accumulated opinions of his medical brethren. It is such confidence which gives dignity, honor and true worth, which, after all is said and done, is the true compensation of service.

WHAT THE CIVIL SERVICE COMMISSION IS ACCOMPLISHING.*

W. B. MOULTON.

President of Illinois Civil Service Commission.

CHICAGO.

The long duration of politics in the state institutions brought about the agitation for the passage of the present State Civil Service Law. The women's clubs, always interested in the subject of the great public

*Summary of Address before the joint meeting of the Physicians' Club and Chicago Medical Society, March 13, 1908.

charities, were the prime movers in this behalf. The conditions of the institutions that brought about this movement have been aptly described in a little pamphlet issued by the Illinois Civil Service Reform Association, in its campaign for a State Civil Service Law. These conditions are set forth there as follows:

STORY OF TYPICAL INSTITUTIONS.

"Let us look closely at a single typical institution which since its creation has been an object of special pride to the state. The Illinois Eastern Hospital for the Insane at Kankakee is more than 25 years old. There are more than 2,000 patients and more than 400 employes. It has cost the taxpayers, in construction, repairs and maintenance, between seven and eight million dollars. It was planned with much courage and originality—in defiance of the prevailing modes of asylum architecture—and its cottage plan became at once a model for imitation in other states. It was authorized in 1877 and opened in 1879 (a significant fact when compared with the seven years lately required to open the Peoria asylum). Dr. Richard M. Dewey was the first superintendent. Prior to his appointment he had had seven years' experience as a staff physician in a hospital for the insane and was an eager student of advanced methods. The institution became at once a non-restraint hospital; that is, intelligent medical and nursing care was bestowed upon sick people, instead of the mechanical restraint used in the average asylum. A training school for nurses, the only one in Illinois, was opened in 1886. About the same time women physicians were employed for the first time in the middle west, a pathological laboratory was opened, and in many respects the administration was one of marked progress and of marked superiority to that of other institutions for the insane in Illinois.

"In the first seven years of the ten-year period of flux, beginning in 1892, Kankakee had five superintendents and three and two-thirds sets of trustees. In the ten years the medical staff has passed through several cycles of change, and among the four hundred of employes of all classes it was stated at the time of the 1900 election that there were not more than a dozen who had been there under Dr. Dewey. The skilled alienist has been replaced as superintendent by a general practitioner; the chief of staff, instead of being a trained man—as required by law in the State of New York—is now a village doctor; the women physicians are all gone; medical internes (once chosen by severe competitive examinations) are no more, the pathological laboratory has fallen into neglect, the standard of nursing care has been sadly lowered."

Previous to the passage of the Civil Service Law the institutions were used in every possible way to carry the districts in which they were situated. Employes were assessed for the expenses of nearly every campaign. Kankakee and Lincoln were typical as institutions used for political purposes. I quote Mr. Lawrence Stringer, of Lincoln, Ill., the democratic opponent of Governor Deneen, to the effect that in every election the polls in West Lincoln were formerly manned by the employes of the Lincoln institution, but that under Governor Deneen all

this has been changed, and the institution no longer appears in the political battles. At Kankakee during elections the hospital bands and most of the employés were likewise engaged in the political contest. Every thought of those who were in actual power was directed to the use of every force available at these hospitals to accomplish but one end, namely, to make the institution the political power in the district. It could hardly be expected that any institution could make much advancement under such conditions. The appointments were generally made, not along the idea that the man should fit the office so much as that the office should be made to fit the man. Yet even here they often failed; for instance, we find the landscape gardener at one place to be a local butcher, who knew as much about landscape gardening as he did about dressmaking. We also found the visitors' attendant at one institution, who had valuable political connections, receiving a higher salary than the chief nurse of the institution.

But worse than all the anomalies of this kind was the fact that instance after instance was given us by the superintendents of subordinates who defied them and ignored them in every particular, and whom they could not remove because of the influence that held them there.

The employés of the state charitable institutions who were holding places of employment Nov. 1, 1905, when the civil service law went into effect, remained in the service in the character of holdovers. The civil service law and its administration provided only for the filling of vacancies as they should occur from that time on. Consequently those who were in the service on Nov. 1, 1905, and who now remain in the service as holdovers, have not been subjected to any examination.

Under the civil service law and with the removal of political influence, as affecting the employés of the institutions, it is much easier now to discharge a man for cause than formerly. A large number of discharges have been made since the law went into effect for one cause or another, but always for a reason satisfactory to the commission. In not one instance has there been any complaint on the part of any employé discharged that it was made for a political reason.

Among the many improvements in the service that have grown up under the short period of the administration of the civil service law may be mentioned:

MEDICAL SERVICE.

Through the civil service examinations, which are of a high standard, are now entering young men of high character and of the best training, many of whom are making this line of work their specialty and who are infusing into the medical service of the institutions a much higher standard than has been heretofore attained. The men to whom has been intrusted the responsibility for the character of the medical service, and who have been appointed by the Civil Service Commission as its Examining Board for Physicians, are: Dr. Hugh T. Patrick, Dr. Wm. E. Quine, Dr. John B. Murphy, Dr. Harold N. Moyer, Dr. E. M. Reading, Dr. Charles E. Kahlke, Dr. Theodore Tieken, Dr. Robert B. Preble, Dr. Maximilian Herzog of Chicago, and Dr. Frank P. Norbury of Jack-

sonville. When men of this character determine the standard of the medical service of the institutions it may be seen at once that it must be of the best. Through the examinations given by this board the Civil Service Commission has introduced generally in the institutions, for the first time, women physicians and medical internes. This board has also given two promotional examinations for first assistant physicians, and through these promotional examinations the positions of first assistant at Anna, Lincoln, and Kankakee have been filled, thus stimulating the ambition of the members of the staff to seek advancement in the line in which they are engaged.

PSYCHOPATHIC INSTITUTE.

Under the Civil Service Commission will also be the new Psychopathic Institute, now ready to begin work at Kankakee. This institute has been organized to raise the standard of the medical service in the institutions by means of instruction and watchfulness of methods employed in the other institutions. But one other state in the Union has such an institute, namely, New York. The head of the New York Psychopathic Institute is Adolph Meyer, a physician who secured his position while a resident of Illinois through the civil service law now in operation in the State of New York. Dr. Meyer is the leader in his line of work in this country, and through his work of instruction has raised the medical efficiency of the state hospitals of New York to the highest standard in the country. It is the plan of the Kankakee institute to raise the standard of Illinois institutions in the same way. All state institutions of New York have been under a civil service law since 1884. The best institution men in the country are to be found in New York institutions, where the civil service law has had adequate time to prove what can be done under it. Nearly every superintendent in New York has a high reputation in his line. Each one has attained his position through a civil service examination, and through the permanency of the tenure of his office he has had time to work out the problems of his institution. Wisconsin passed a state civil service law a month after the Illinois law was adopted, and Colorado passed a state law in 1907. The institutions of no other states are under civil service.

DENTIST.

For the first time there have been created the positions of dentist in two of the insane hospitals. The Civil Service Commission has supplied a dentist for Kankakee and one for Bartonville. It is the intention to complete this important and heretofore neglected work by the appointment of dentists in each institution.

ATTENDANTS.

One source of great trouble to the superintendents of the insane hospitals has been the "Hospital Tramp." Heretofore there has been no means of checking up and cutting out this class of employes. They would go from one institution to another; would stay but a short time when they would be discharged either for drunkenness or abusing the

patients, and then would wander off to another institution in this state or elsewhere. Through the fact that all employes must now come through a central office, the commission has been able practically to cut this undesirable class out. Between 450 and 500 of these employes have been shut out of the service.

No other institution, except Kankakee, has attempted in the past to teach attendants the proper methods of caring for the patients. For the first time training schools for nurses are now in operation in all the hospitals for the insane. When these training schools are perfected the result will be a more efficient service in employes and the rendition of an actual service to the state in placing before young women of the country districts a chance to learn something of the profession of nursing. In other words, the insane hospital will be actually producing something of benefit of a positive character.

The state civil service law went into operation Nov. 1, 1905. From that time to Dec. 31, 1907, the Civil Service Commission has received 5,433 applications. It has held 970 examinations, at 60 places throughout the state. At these examinations 3,166 people were examined and 2,434 passed. During this period 2,253 have resigned from the service and 639 have been discharged. The number of appointments made from Nov. 1, 1905, to Dec. 21, 1906, is 1,468. The number of appointments made from Dec. 21, 1906, to Dec. 31, 1907, is 1,854.

RESULTS ACCOMPLISHED.

Letters and communications received from the heads of several of the state charitable institutions all speak in enthusiastic commendation of the workings of the law during the past year. For example, one superintendent of a half-dozen years' experience writes to the committee as follows:

"I can see an improvement in the officers who were appointed years ago; they realize that their friends can no longer keep them in office unless they do their duty. The Civil Service Commission, as far as this institution is concerned, has enforced the civil service act in every particular, and their efforts along this line have done much to improve the service of the employes."

This from the head of one of the state asylums:

"The year in which the law has been in operation has unquestionably been the most successful period in the history of the Illinois charitable institutions. It has operated without friction and is in every way a desirable law.

"Its greatest aid to us was in the professional and scientific line. Heretofore many of the members of the medical staff were practitioners of middle life who were tired of practicing and who, through political influence, secured positions in asylums where they and their entire families could 'rest.' . . . Very excellent men were very often secured in this manner but it is easy to observe that when qualifications other than professional service were allowed to influence these selections a tremendous chance was taken. This has completely changed.

"Aside from the medical staff we have been aided by the commission especially in the elimination of the 'hospital tramp,' or institutional rounder. These people have been the bane of the service and the perpetrators of the institutional abuses which so completely shook public confidence in the institutional methods in the past."

PRESENT INVESTIGATION.

Personally, I desire to say but a few words in regard to the present investigating committee and their methods. I shall say nothing of their object or purpose, but just a few words in regard to their methods. In each institution they secure a list, first, of the discharged employes. As many as can be secured and interviewed are carefully coached as to what they will tell to the detriment of the institution; if they know anything of the good, they are not asked as to this. In addition to this, there are in all the institutions many of the former political employes who are hostile to the management. The names of these are secured from the political opponents of the Governor in hospital towns. At Lincoln the attorney for the investigating committee is the leader of the faction opposed to Governor Deneen—Mr. Blinn.

No opportunity is given to examine witnesses to show their bias or unreliability, nor is any chance given to examine witnesses who may be favorable and whose favorable testimony the committee aims in every particular to shut out, should such testimony develop during the examination.

In behalf of Dr. Hardt and the situation at Lincoln fifteen witnesses have been offered and twenty-five more will be asked to be subpoenaed. The committee has not heard any of these witnesses as yet, and, in my opinion, does not intend to do so.

Rather than go further in my own observation and opinion, which I may give at a later date, I quote to you a letter written by the President of the Lincoln Women's Club as representing an organization in no wise connected with the institution, and in no wise engaged in politics.

"LINCOLN WOMEN'S CLUB, LINCOLN, ILL., March 3, 1908.

"MISS ANNA LEWIS CLARK,

"Boonville, Mo.

"*My Dear Miss Clark:*—Allow me to thank you for your acknowledgement of the letter issued by our club, bearing on the present legislative investigation. I would like to add a few words to explain what is only implied in the letter.

"The chief object in sending it was to comfort and reassure the tortured friends of the inmates who naturally would conclude from newspaper reports that the asylum here was shamefully administered; secondarily we desired to defend the institution from an attack which we then suspected to be political, but which we now know to be maliciously and deliberately so.

"Dr. Hardt was installed a year ago by Governor Deneen, with the pledge that he should be supported in a forlorn endeavor to rescue the institution from depths of infamy, described by Governor Deneen as "the rottenest thing in Illinois." This reform is under way, but, a gubernatorial election approaching, the administration (state) is attacked in this manner; also a personal grudge against Dr. Hardt must be paid by local politicians. This is the *casus belli* and probably simply and solely the cause of the investigation.

"As to the accidents I must give you as my authority the words of Dr. W. H. C. Smith, president of the State Board of Charities and Corrections, also of the National Association of Superintendents Asylums of Feeble-minded Children: 'Accidents are a matter of course; they must be from the nature of the case,' etc. 'No more here than at any other similar institution.' He strongly defends Dr. Hardt.

"The complaint as to the food is a farce, a joke beneath notice, as this legislative committee is dealing with it. They are, according to Dr. Smith, 'cheap men' wholly incapable of judging the situation.

"The Club, being in no official relation to this case, was intentionally non-committal and inoffensive. We by no means deprecate a fair investigation and know that reforms must be necessary and that years will be required to correct all the evils of the spoil system.

Yours sincerely,

"CATHERINE C. LUTZ."

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

E. H. BUTTERFIELD, M.D.

Medical Director Ottawa Tent Colony.

CHICAGO.

The question whether the diagnosis of tuberculosis of the lung can and should be made when tubercle bacilli are not present in the sputum is one which has produced more difference of opinion among writers than almost any other in the whole range of diagnosis. Gerhardt expresses himself thus: "I know cases in which bacilli were not found for months, or only in the sixtieth specimen, but when the diagnosis of tuberculosis was established by examination of the chest." Eichhorst writes: "Now and then one certainly finds cases in which no tubercle bacilli are found in the sputum, even after daily examination of several specimens in spite of the undoubted existence of pulmonary consumption." In a communication to the Eleventh International Congress, describing beginning tuberculosis of the lungs, Turban expressed himself as follows: "Clinically the first stadium of tuberculosis of the lung may be demonstrated before bacilli appear in the sputum."

In commencing tuberculosis of the lung the anatomical changes are of such a kind that the tubercle bacilli actually present in the tissues can find no means of exit, whilst the foci are large enough to be demonstrated by percussion and auscultation. A negative result, then, of sputum examination in no way excludes the existence of foci, producing physical signs, so that in these cases the earliest recognition of the disease can only be obtained by physical or other means of diagnosis which I shall only be able to touch upon in this paper.

TUBERCLE BACILLUS LYING DORMANT.

From the researches of Loomis and Pizonni, who were able to produce tuberculosis in animals with material from healthy bronchial glands, the conclusion must be drawn that, like seed on stony ground, the tubercle bacilli can persist in a viable condition in an unsuspectable host. From this we may picture the development of tuberculosis as occurring at the moment when certain weakening influences, which we recognize as predisposing causes, come into the human economy. In one case we assume that many years elapse between the inception of the bacillus and the breaking down of the prophylactic mechanism; in the other that the bacillus finds a suitable soil from the moment of its invasion and tuberculosis develops at once; it may be in the glands

* Read before the North Central Illinois Medical Association, Dec. 3, 1907, Sterling, Ills.

or in the lung. And this conception reconciles the contending views of heredity, fetal infection, etc.

Now when the host has reacted to the invasion of the bacillus with inflammation and tissue proliferation and infiltration, clinical observation shows us that there may be a pause before ulceration, breaking down or softening occurs; this is the case in various organs, e. g., joints, glands, infiltration of larynx. There are many examples of stationary tuberculosis when death has occurred from accident or intercurrent disease, and it is then found that the pause and retrogression occur either immediately after formation of granulations or even after necrosis has already begun. Tubercular changes may exist for years in the lung without leading to necrosis and even without the appearance of bacilli in the sputum.

APICAL TUBERCULOSIS WITHOUT SYMPTOMS.

That apical tuberculosis may remain quite symptomless during life, even though of an advanced degree, we know well enough from post-mortem observations. Perhaps the very first beginnings never produced symptoms. Whether the disease is manifested early or late depends on the degree of the toxicity of the bacillus, or the production of antitoxins by the organism, and the consequent quicker or slower development of the disease, as well as on its localization in the bronchi and alveoli, or in the interstitial tissue. In any case it is quite erroneous to assume that clinical symptoms must begin as a rule with bacillary sputum. It may be well to repeat that bacilli are, in general, first found in the sputum when foci soften and invade a bronchus, i. e., when the tuberculosis, until then "closed," now becomes "open."

SYMPTOMS OF EARLY TUBERCULOSIS OF LUNG.

Closed tuberculosis may exist without symptoms, perhaps throughout a lifetime, but there are, on the other hand, many cases in which long before the appearance of bacilli or elastic fibers in the sputum a series of symptoms of ill health develop which do not indefinitely point to tuberculosis. In others the whole array of symptoms characteristic of the disease appear. Between these two extremes arise those which have one or two symptoms, and when, as often happens, symptoms ascribable to other organs are most prominent, then it is that the term "masked" tuberculosis is proper. Here under general symptoms might be mentioned disturbances of circulation, condition of the blood, of the digestive organs, and of the nervous system; patients look pale, frequently change color, are easily excited, easily tired in mind and body, have but little appetite, perhaps nausea and actual repugnance to food, bowels may act irregularly and they lose flesh, associated with brittleness of the nails and dryness of the hair and skin. Irritable weakness of the heart and vasomotor system should be taken into account. The pulse is usually persistently frequent or may be very inconstant, rising from 70 to 80 or to 100 to 120 or even more on the slightest mental or bodily excitement. Most patients are not aware of this tachycardia, others complain of slight dyspnea and palpitation.

The temperature may be quite normal or at least not raised in proportion to the pulse frequency. Flushings of the face on slight mental excitement and during examination; for instance, the patient may sweat so freely that great drops run down the armpits; this, according to Turban, is due to tuberculin intoxication, which is also responsible for the reduced energy and pseudo-dyspepsia. If the temperature is carefully taken and recorded it will be found to show the same variations as the pulse, slight but persistent elevation after the principal meals and considerable rise after moderate exercise. Less common is a high morning temperature, but this sometimes approaches the evening one or may exceed it. In women the temperature may show a regular monthly wave, with a rising before and a depression after menstruation. This may last for a long time and is generally overlooked by the physician and patient because it gives rise to little or no direct trouble or, if discoverable, is mostly put down to gastric disturbance, malaria, typhoid, etc.

Pain.—Very frequent pain is a marked symptom. Not so much pleuritic pain at the seat of the disease, but all over the lower lobes of the affected side, occurring as a dull, boring or stabbing pain and radiating down the arm. This often leads to a diagnosis of rheumatism.

Cough and Expectoration.—The cough may or may not be accompanied with expectoration. Where tuberculosis commences insidiously, cough as a rule precedes expectoration by months or years. We all know the short, dry, hacking cough which is usually regarded as a precursor of tuberculosis of the lung, but the cough is not always short and dry; the character and quantity of the sputum depend upon the extent to which the air cells and bronchial tubes are involved.

Hemoptysis.—Closed tuberculosis is deserving of special notice. The streaks and spots of blood as well as the still less considerable traces have an origin analogous to those occurring in acute croupous pneumonia and are as easily explained. Frank hemorrhages are generally followed by expectoration containing bacilli. In other words, the initial hemoptysis would seem to usher in the open state. Hemorrhages may occur without the subsequent appearance of tubercle bacilli.

Besides hemoptysis a number of other episodes often interrupt the insidious course of tuberculosis in this stage. Many patients are especially liable to attacks of catarrh, the inflammation of the whole respiratory tract, laryngitis, bronchitis, pneumonia and pleurisy. The various forms of lobular and extensive pneumonia often occur; these radiate readily from the extending locus of diminished resistance and may occur repeatedly in the same subject. The exciting agents are the influenza bacillus, Frankel's diplococcus, streptococci and many other micro-organisms. These are termed the mixed infection. Very often we have associated with a beginning tuberculosis of the lung an exhaustive bronchitis, purulent or otherwise.

Mixed Infection.—That local disease affecting the respiratory tract may smooth the way for tuberculosis we are all well aware. The influenza bacillus is not to be ignored in the early stages, for if it is not

proven that tubercular individuals suffer more often than others from influenza, at any rate the infection more often passes off without pneumonia in the healthy than in the tubercular, and in the latter it easily leads on to a "chronic influenza mixed infection," which shows itself in prolonged, irregular fever or in repeated febrile attacks (broncho-pneumonia).

Dissemination.—Without the assistance of a mixed infection the disease may be widely disseminated from a small nodule via a bronchus or by the lymph or blood vessels. The serous pleuristics are two-thirds tubercular; dissemination often occurs from these; it is difficult, however, to demonstrate the presence of bacilli in the exudate on account of their small numbers. Dissemination may follow hemoptysis—a frank hemorrhage in our experience is often followed by a rapid rise in temperature and an extension of lung involvement.

PHYSICAL SIGNS OF EARLY TUBERCULOSIS OF THE LUNG.

Inspection often reveals valuable information. Very early the affected apex begins to lag behind the other in inspiration; there may also be a slight retraction or rather wasting of the muscles over the scapula, this giving a prominence to the scapular ridge on the side affected. The supra- and sub-clavicular fossa may be more depressed and the clavicle consequently more prominent, but even this may prove to be an anatomical imperfection. Nevertheless it is often associated with retraction of the lung. Palpation is not of great value, especially where the voice is not of the right timbre or intensity, or when there is some laryngeal or vocal cord infiltration.

Percussion.—Results of positive value can often be obtained from this method, yet we must remember that with the slightest infiltration at one apex the deviation from the normal is often so slight that auscultatory evidence is necessary to clear up the doubt. Much, too, depends upon the skill of the examiner as well as the extent of the tubercular process. In the latent and early cases the modification of the percussion note is seldom great on account of the limited and scattered tubercular foci.

Auscultation.—Auscultation of the lung is of greatest aid in determining the earliest manifestation of the disease. A slight deviation from the normal type of breathing known as roughened breathing and weak vesicular breathing or a combination of the two may be found. This may or may not be associated with prolonged expiration. Cog-wheel breathing may be considered also an early physical sign. Râles may be present very early or may long be wanting. They are usually of the fine crackling, crepitating variety, more rarely of the medium size. One writer describes, or rather calls attention to, a not infrequent sign at the affected apex in the absence of moist râles. A localized short whining, only audible after coughing and only on inspiration. Medium râles in any considerable numbers usually occur with commencing softening of the apices. Pleural sounds may be heard over affected areas, varying from a soft rub to a loud scrape, but more often occur down

at the edge of the lower lobes in commencing apical disease; in this locality one may often find small exudations or their remains which have given rise to no symptoms. It is well to remember that the very earliest signs occurring in the apices are usually heard in the supra- and inter-scapula fossæ. If auscultation is confined to the front of the chest, as is so often the case, those very slight but so significant deviations of the normal breath sounds may escape detection. Associated with early apical retraction we may have a symptom, namely, subclavian murmur, heard during inspiration and expiration. This is due to adhesions of the pleura to the sheath of the subclavian artery. This may occur in the healthy, but very much more often in apical tuberculosis.

Slight symptoms of laryngeal involvement occur frequently in early cases; it may manifest itself in the form of a chronic laryngeal catarrh or slight adductor paralysis. Unequal dilatation of the pupils, slight swelling of the thyroid gland and intermittent albuminuria may be mentioned as occurring frequently enough to be taken into account in making an early diagnosis.

DIFFERENTIAL DIAGNOSIS IN THE EARLY CASES.

After considering in detail the earlier signs and symptoms, the diagnosis of tuberculosis of the lung is suggested to the physician, even without the occurrence of bacilli in the sputum, by one or more of the number of symptoms detailed, ill looks, loss of weight, tachycardia, blood splitting, etc. He is now called upon to make an accurate physical examination of the lungs, as well as watching the temperature over a period of several days. If the examination reveals the slightest deviation from the normal type of breathing at one apex, if there occurs on inspiration or coughing the slightest crackle or whining, if the percussion note is higher in pitch, less resonant with a tympanitic quality, we can say definitely and positively that this is an infiltration at one apex, and we may also assume that it is tubercular with the same degree of probability that we can assume in other diseases. Chronic pneumonias, if of non-tubercular nature, are almost always confined to the lower lobes. From hereditary syphilis we can differentiate from the fact that the white pneumonia of syphilis, both in its lobar and lobular form, occurs in the lower lobes; this form of lung trouble, together with malignant growth, occurs so rarely it need hardly be considered.

TUBERCULIN AS A MEANS OF DIAGNOSIS.

In the latent, obscure and closed cases I have come to believe that tuberculin properly administered is a safe and reliable diagnostic agent. Early tuberculosis reacts to tuberculin in the most positive manner. The limitations of its use, of course, are febrile cases. Cases of the advanced type frequently give no reaction, the tissues of such patients having become resistant to the poison. It is said that leprosy, actinomycosis and syphilis react to tuberculin. For diagnostic purposes the technic of administration is as follows: It must be first assured that the patient has no continued fever by noting and carefully recording the temperature every two hours from 8 a. m. to 10 p. m. for two days. First

$\frac{1}{2}$ to 1 milligram of Koch's old tuberculin is injected subcutaneously, this amount being obtained by suitable dilution of the original solution; if no temperature is produced by this amount 3 to 5 milligrams may be given in a second injection after an interval of three days. If there is no fever reaction, another and last dose of 10 milligrams, after another interval of three days, is given. If fever results it is essential that the patient be confined to bed until it disappears.

OPSONIC INDEX.

As to the reliability of the opsonic index in diagnosis, I shall quote Dr. Mary Lincoln, of St. Lukes Hospital, and Miss Maloney, in our own laboratory, where we are working on opsonins relative to their value both in diagnosis and as a guide to the therapeutic administration of tuberculin. In answer to the question, "Is there a normal tuberculo-opsonic index?" Dr. Lincoln states that five different individuals known to be absolutely free from tubercular infection were selected as normals and their tuberculo indices were determined 50 to 100 times during the course of six months. The results in the total 350 opsonic indices, the range is with few exceptions 0.8 to 1.2. We may then say that the normal tuberculo-opsonic index ranges from 0.8 to 1.2. Comparing this with the tuberculo-opsonic index of patients numbering 75, 40 cases being treated and 35 for diagnosis, the average of the opsonic indices before treatment in 40 patients was found to be 0.68 and the range from 0.35 to 0.9; there were only four cases in this group whose clinical and opsonic index diagnosis did not agree.

CONCLUSIONS.

1. Clinically the first stage of tuberculosis of the lung may be demonstrated before bacilli appear in the sputum.
2. Predisposition, or where one or several individuals of the same family have fallen victims to consumption, the first signs of ill health ought to prompt the physician to exhaust every means and method of diagnosis in order to arrive at a correct conclusion and steps taken if a positive diagnosis is made to insure his patient prompt and rational treatment.
3. That the latent, closed or masked forms of early lung tuberculosis are not easily demonstrated, and if the clinical findings are not of sufficient proof, diagnostic tuberculin should be administered.
4. Repeated negative examinations of the sputum do not preclude the existence of pulmonary tuberculosis.

ARTERIOSCLEROSIS OF THE NERVOUS SYSTEM.*

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CHICAGO.

Compulsory brevity¹ warrants dogmatism in statement, as exemplified in the following:

Under the microscope nothing is more obvious than sclerosis of a cerebral artery. In dialectic medicine nothing seems simpler than to deduce the reasonable results of such sclerosis and to correlate the lesion with certain observed symptoms easily referable to the brain. In practice, however, until this arteriosclerosis has induced thrombosis or hemorrhage, few things are more difficult than definitely to determine its presence and accurately to predicate its symptoms, because:

1. Advanced arteriosclerosis may exist in the central nervous system when accessible arteries show little or no change.

2. Marked arteriosclerosis may be found in other parts of the body, and the vessels of the brain and cord be very good.

3. Pronounced sclerosis of brain and cord arteries sometimes produces no symptoms at all.

4. Supposing that neither thrombosis nor hemorrhage has occurred, there is not a single symptom of arteriosclerosis of the nervous system which may not be caused by conditions other than vascular disease.

5. In many instances, probably in the majority of cases, in which arteriosclerosis of brain or cord or both does cause symptoms, other pathological conditions are heavy contributors to the total symptom complex presented by the patient.

6. The most unequivocal symptoms of arteriosclerosis are due not directly to the change in the vessel walls but to injuries of nervous tissue by vascular insult; namely, thrombosis or hemorrhage. And of these thrombosis is vastly the more frequent. Indeed, a large part of the symptomatology of arteriosclerosis of the central nervous system is due to repeated or multiple thromboses, or occlusions, of small arteries. By common consent massive hemorrhage and softening are considered apart.

7. Next to vascular occlusion, probably the most frequent cause of symptoms induced by arteriosclerosis is sudden or rapid change in the blood current, and next to this impairment of nutrition from diminished blood supply.

Assuming these seven assertions as a confession of faith, the following disjointed addenda are submitted as practical corollaries bearing on diagnosis and symptomatology.

In the tactual recognition of arteriosclerosis I think examination of the radial artery of the least importance. The brachial is better; the dorsalis pedis and posterior tibial (combined) are much more significant,

* Part of a symposium on arteriosclerosis before the Chicago Medical Society, Feb. 12, 1908. For discussion see page 577.

1. Papers were limited to ten minutes.

and in many cases the carotids are the most indicative. Of more assistance than palpation of any of these is simultaneous compression of both carotids. This maneuver sometimes amounts to a demonstration. In the arteriosclerotic it induces faintness, giddiness, blurring of vision, scotomata, tinnitus, localized paresthesia, obscuration of consciousness, spasm. I have myself several times caused loss of consciousness and slight convulsions, and an Italian physician who advocated the procedure once precipitated thrombosis of a large artery, causing a permanent hemiplegia.

A much neglected aid in the recognition of arteriosclerosis is the ophthalmoscope in the hands of a competent man. There are few except or even graver symptoms. Indeed, it is to be used with great circumspection to the rule that unmistakably sclerotic arteries in the fundus mean sclerotic arteries in the brain. In this connection I may be allowed to note that there is no necessary connection between arteriosclerosis and advanced years. Sometimes the cause of juvenile arteriosclerosis is clear, in others it is most obscure. As in the celebrated case of the child who was adolescent at 3 years and died of old age at 10, so now and again an individual is seen who, from some unknown vital vice or defect, shows in the twenties such arteries as one expects to find only in those fifty years older.

Prominent among the symptoms of cerebral arteriosclerosis are brief or transient seizures of various kinds, and of these attacks of dizziness are probably the most frequent. Ordinarily they are not very severe, but they do attain a degree equal to the most violent Ménière's disease so that the patient drops helpless to the ground. Other seizures are fainting attacks, transient aphasia, blurring of vision or tinnitus. Still others are apoplectic. The patient is stricken with a sudden hemiplegia or monoplegia, with or without loss of consciousness, and apparently has sustained a serious ictus, but the whole thing clears up in a few minutes or hours—days at the most. With these attacks are to be classed fugitive paresthesia, diplopia, scotomata and mental confusion. A perfectly adequate explanation of such transient symptoms of a permanent lesion like arteriosclerosis has never been given. In my opinion, the explanation is not always the same, but the fact remains that these brief manifestations are in some way significant of established and enduring arterial disease.

Closely allied to these transient attacks must be the epilepsy of arteriosclerosis. This epilepsy, like any epilepsy, may present the features of the grand mal, the petit mal or the Jacksonian type. Arteriosclerosis alone does not cause epilepsy. There must be an added element in the way of cortical instability, neurotic predisposition, toxemia or other influence which plays the rôle of predisposing or exciting cause. And, as before stated, this applies to the symptom complex presented by many a patient suffering with arteriosclerosis. One of the plainest illustrations of the effect of this combination is the result of known infection or injury in such a patient. He gets along very well with his bad arteries until he contracts grippe, gets a bad bronchitis, undergoes an

operation, or sustains an injury, when suddenly the accepted symptoms of bad arteriosclerosis appear. The legs or one arm and leg get weak, he has numbness and tingling, the tongue is thick and clumsy, memory is impaired or he is mentally confused, especially at night. This being the case, it is easy to conclude that coexisting nephritis, myocarditis, constipation or sluggish elimination often has much to do with symptoms attributed to arteriosclerosis.

The legitimate symptoms of arterial change in the nervous system vary, as do those of any other lesion, in accord with the location, the degree and the rate of progress of the abnormal process. In harmony with the variation of these factors are a few clinical types which may briefly be mentioned:

First, there is the type of gradually or irregularly progressive paralysis. For instance, a patient now under observation first noticed a clumsiness or weakness of one leg; then the other became involved, and after a time the left arm. The whole course of the disease has extended over a couple of years, and there is only a very indefinite history of one or two slight sudden increments—nothing like a “stroke.” Another patient seen a few days ago began three years ago to be unsteady on her legs. Gradually this increased and a year ago the ataxia invaded the arms. She now walks with great difficulty, the hands are considerably disabled, speech and deglutition are involved, memory is impaired and at times she has spasmodic laughter and weeping. She has had nothing in the way of a “stroke.” When in such a case the lesion or lesions gradually invade adjoining areas of the cortex the clinical picture may be much like that of brain tumor.

Another type is that of bulbar or pseudobulbar paralysis, the latter the more frequent. The true bulbar cases are caused, of course, by disease of the arteries supplying the nuclei in the pons and medulla oblongata. Such cases are sometimes very quickly fatal, sometimes quite chronic. Pseudobulbar palsy is caused by bilateral cerebral disease. There is the same monotonous, indistinct speech, difficult deglutition, tendency to choke in swallowing, weakness of the tongue and drooling as in true bulbar cases, but no atrophy. Frequently the pseudobulbar cases exhibit the spasmodic laughter and weeping so well described by *Brisaud*. I have known these attacks to be mistaken for hysterical episodes.

Needless to say, there is a mental type—a type most variable and composite. In a general way it resembles the mental disorder of senility and consists of a foundation of mental debility with a variety of casual additions in the way of emotional disorder. Mental confusion, especially at night, is apt to be prominent.

Then there is the neurasthenic or psychasthenic type. This includes the patients with head pressure, poor sleep, vague dizzy feelings; with indefinite apprehensions or defined phobias, transient palpitation, hot and cold sensations, epigastric distress, uncomfortable pulsations, etc. In these cases, as in the great majority of the mental ones, I believe the arteriosclerosis to be simply an exciting element of disease. The type is

determined by the personal equation, the inherent psychopathie or neurotic tendency of the patient.

In conclusion, I wish to say a few words about arteriosclerosis of the spinal cord, a subject concerning which one sees little and hears less. The cases may be divided into two groups, the sudden or rapid and the slowly progressive. A very large proportion of what currently passes for acute myelitis is not inflammation at all but myelomalacia, acute softening from vascular occlusion. The chronic cases are more frequent and present several types. It seems quite clear that one may have intermittent claudication from spinal disease as well as from sclerosis of the arteries of the lower extremities as described by Chareot. Then there is the sensory type in which the patient complains of paresthesia, numbness, pain in the legs, and in which very considerable ataxia may appear. The most frequent form is the more purely motor, in which the legs gradually lose strength, generally with some rigidity or at least a feeling of stiffness. The most characteristic feature of this form is the gait of short, shuffling steps, the *marche a petits pas* of the French. But it must be noted that this gait occurs in cerebral cases as well when the lesions are considerable and bilateral. The same applies to sphincter disturbances. It is worthy of note that in arteriosclerosis of the spinal cord the deep reflexes may be diminished or increased—probably depending upon the part of the cord most affected.

VACCINE TREATMENT OF GONORRHEA IN FEMALE CHILDREN.*

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Among the bacterial infections in which local antiseptic treatment does not always prove satisfactory, gonorrheal vulvo vaginitis may, we think, be well included. It appears quite clear that whatever organisms are on the surface of the mucosa in such an infection will be disposed of, in great part at least, by the action of antiseptics, but those at a deeper level will be inaccessible to their action. Many such organisms so located may be taken care of by being washed to the surface by lymph. A greater task, however, will still remain for the body to accomplish, namely, to destroy the gonococci beyond the reach of local medication through its immunizing mechanism. As the immunizing apparatus is ordinarily quite slow in effecting this, we attempted to call upon it in a number of cases for increased labor through the stimulus of vaccine

* Read before the joint meeting of the Chicago Medical and Chicago Pediatric Societies, Feb. 19, 1908. For discussion see page 585.

therapy, withholding at the same time all other treatment, and we will present below our findings in the cases so treated.

The vaccinations were employed on the basis of the opsonic index. Wright's technic was adhered to. It may, however, prove of some interest to those busy with the gonococcus in this work to mention some of our experience with it. Contrary to what we expected, we have not found it a difficult organism to work with. The media employed for its cultivation were blood serum and blood agar. It seems to bear considerable variations in temperature and to remain viable for a number of days. Blood agar has proved especially satisfactory for propagating its growth.

In regard to the preparation of an emulsion, we have found that if a young culture of gonococci of from six to eight hours old is used there is no trouble with clumping. It is, therefore, our custom to make a culture about six to eight hours before we wish to use it. Cultures twenty-four hours old give rise to so much clumping that we can not well understand how accurate results can be obtained when they are used. We think that young cultures is one of the important points in minimizing the difficulties of the technic in opsonic work in general. We employ an emulsion that will average from four to eight to a cell, believing that less inaccuracy will result than where an emulsion averages one to two to a cell. What holds good in the preparation of the emulsion for the testing of blood also holds good in the vaccine emulsion.

A word as to staining may not be out of place, as the plan we adopted proved especially serviceable. After fixing in a bichlorid solution and washing, we place the slide in a 2½ per cent. solution of sulphuric acid for several seconds until the coloring of the smear fades; then wash off in water and stain with an alkaline aqueous solution of methylene blue for one minute. This makes an excellent slide for counting. In determining our index we have taken the average phagocytic count of four healthy children as our normal.

The vaccinations were interspaced according to the index, making an effort as far as possible to inject patient before an index would decline below normal. We do not feel justified in generalizing as to dosage of vaccine, nor making any statements as to time index will remain above normal after vaccination. We have found that the dosage varies in different cases, and can be determined only by investigating for each individual case the immunizing response to a given dose as indicated by the index. This may be observed on inspection of some of the charts, in which can be seen that while little or no response may follow a small dose, and likewise a large dose, apparently for the individual, a marked rise in the index will be found following a dose between the two extremes. The minimum dose used was 1,000,000 and the maximum 50,000,000.

We used two vaccines, which are designated vaccine *a* and vaccine *b*.¹

Vaccine *a* was prepared from a culture taken from one case of gonor-

1. Vaccine *b* was supplied by the Experimental Department of Parke, Davis & Co.

rhea. Vaccine b^1 was prepared from cultures made from four cases of gonorrhea. They were both standardized to 20,000,000 per cubic centimeter. No effort was made to isolate the gonococcus in each individual case. The children treated by vaccine therapy ranged in ages from $1\frac{1}{2}$ to 12 years. No unusual complications referable to gonorrhea developed in any of them.

Following is a brief report of the cases treated:

CASE 1.—Age, 21 months. Profuse vaginal discharge found Sept. 17, 1907. Smears showed gonococci. September 20, placed on vaccine treatment, with the result noted in chart. There was prompt improvement observed in the general well being of the patient, and lessening of the discharge, which is noted as absent October 10, and had been for several days previous. The discharge did not recur, two smears, taken on October 13 and 17 were negative, and child was discharged October 22, free from all traces of gonorrhea.

CASE 2.—Age, 4 years. Vaginal discharge was first reported Aug. 13, 1907. Microscopic examination of stained specimens of discharge revealed gonococci. She was treated daily by douches of a potassium permanganate solution, followed by vaginal instillation of 20 per cent. argyrol solution from above date to Sept. 27, without any apparent effect, the discharge being noted on September 27, when a smear was found to contain gonococci as profuse. She was then placed on vaccine therapy with the result noted on Chart 2. In less than two weeks all discharge disappeared and did not recur. Smears made from wipings from the vaginal mucosa taken at an interval of ten days were negative.

CASE 3.—Vaginal discharge was noticed on August 12. Its specific nature was confirmed by finding the gonococcus. She was given daily douches of potassium permanganate solution followed by 20 per cent. argyrol solution as in Case 2. Notwithstanding this a profuse discharge with positive smears was found Sept. 23, 1907, when she was placed on vaccine treatment. Following first vaccination the discharge diminished and finally disappeared entirely. There was no discharge from October 10 on. Smears taken on October 13 and 28 were found without gonococci. Patient left hospital Oct. 28, 1907.

CASE 4.—Age, 2 years. Vaginal discharge began August 9. Stained smears made from discharge contained gonococci in cells. She was treated by douches of potassium permanganate solution, followed by 20 per cent. argyrol injections up to Sept. 23, 1907, without any noticeable effect. Douches were then stopped and vaccine treatment instituted. Following the second injection of vaccine, there was a decided diminution in quantity of discharge, which partially disappeared October 5. No discharge was noted after October 10. Stained smears made from vaginal mucosa on October 17 and 28 were found negative. She was discharged on the latter date.

CASE 5.—Age, $7\frac{1}{2}$ years. This child had had gonorrhea about 4 weeks before coming under our care. She had received during this time the local antiseptic treatment described in previous case without result. Vaccinations were started September 26. A striking feature in this case is the failure of response to what might be termed small or large doses for the child and the prompt effect following an appropriate dose. The discharge ceased with the first marked rise of the index. A slight recurrence was subsequently noted, but promptly subsided. She left the hospital November 12, without discharge and with a negative smear.

CASE 6.—Age, 8 years. A vaginal discharge was observed in this child Sept. 5, 1907, which proved to be gonorrheal. On September 26, gonococcus vaccinations were instituted. A prompt reaction followed, the discharge diminishing in quantity and then disappearing. No discharge was noted after October 10. October 13 a smear was found negative as to gonococci. A few gonococci were seen in a smear made a few days later, taken at a low index time. Subsequent smears proved negative, the last one being on December 7.

CASE 7.—Age, $1\frac{1}{2}$ years. A discharge in which gonococci were found appeared in this child Aug. 30, 1907. She was placed on vaccine therapy September

16. The discharge promptly diminished and disappeared. Excepting for a slight watery discharge October 28 there was none noted after October 10. Several smears made from the vaginal mucosa proved negative as to gonococci.

CASE 8.—Age, 3½ years. A profuse discharge was found in this case Sept. 16, 1907. Microscopic examination showed gonococci in smears. Her index on September 17 was .4. Vaccinations were begun September 19. A prompt reaction was noticed, the discharge greatly lessening with the rise of the index and returning slightly with its decline up to the first week in October, after which time, with the exception of a slight recurrence October 28, the discharge ceased. Smears in this case, however, were persistently positive until Nov. 29, 1907, when no gonococci were found.

CASE 9.—Age, 12. Patient had gonorrhea three months before admission to hospital for cervical tubercular glands. For her gonorrhea she received local antiseptic treatment, as previously described, until September 26, when she came under our care, still having a profuse discharge. Her index at this time was 1.4. Two days later it was 1.06. She was first injected September 30, being given 5,000,000 dead gonococci. Her index did not show any special response and it declined October 5 to .68. She then received 15,000,000, which was followed by a positive phase, during which the discharge ceased and a stained smear was found negative. For some unknown reason November 7, her phagocytosis for gonococci fell to .1, and a slight discharge reappeared and persisted on and off for several days. From November 26, she was reported free of discharge and smears from vaginal mucosa were negative. There was, however, a subsequent slight recurrence of discharge, which soon disappeared. Her smears still remain negative.

CASE 10.—Age, 5 years. Was entered at hospital with gonorrhea. Microscopic examination of discharge revealed gonococci. We embarked in vaccine therapy in her case Sept. 30, 1907. Her index responded well to inoculations, but her discharge persisted more or less until November 4, when she was reported without any. It recurred slightly on November 10, and again disappeared in a few days. The vaginal smears have usually contained a few gonococci. The last report was negative.

CASE 11.—Age, 4. Reported with a vaginal discharge, which proved to be caused by the gonococcus, Sept. 5, 1907. She was given local antiseptic treatment without any improvement. Vaccinations with dead gonococci were started September 17. Her discharge diminished considerably, but persisted as a "perceptible discharge," with occasional reports of "considerable," following quite closely the rise and fall of the index, until November 28, when it ceased and has not since recurred. Several smears since this time have proved negative.

CASE 12.—Age, 4½ years. Came under observation Sept. 10, 1907, with vaginal discharge, which contained gonococci. Received the usual local treatment from September 13 to 26, when she came into our care. Her discharge at this time was very profuse. Smears showed gonococci. Her phagocytosis for gonococci was practically nil. She responded well to vaccine treatment, the discharge lessening promptly. A slight discharge persisted on and off to November 5, when it ceased and smears proved negative.

Before discussing the results of vaccine therapy in the above cases, we would like to call attention to the results obtained by local treatment. The following are twelve cases of gonorrhea in female children treated by douches of potassium permanganate, usually at four-hour intervals, followed by instillation of 20 per cent. solution of argyrol. There were no special complications in these cases. For purposes of brevity we will mention merely dates of beginning and ending treatment and their status as to gonorrhea on the latter date:

CASE 1.—Treated from January 10 to February 28, when patient left hospital, still discharging and smears positive for gonococci.

CASE 2.—Treated from January 31 to February 26. Removed from hospital. Discharge profuse.

CASE 3.—Treated from January 8 to February 7. Said to have no discharge five days before leaving and negative smear on leaving.

CASE 4.—Treated from January 12 to February 7. Reported as having scant discharge on leaving hospital same day.

CASE 5.—Treated from January 4 to February 4. Said to have no discharge on leaving on this date. No report on smears.

CASE 6.—Treated from January 6 to February 1. Reported with moderate discharge on leaving February 1.

CASE 7.—Treated from November 19 to January 22. Left on latter date with slight discharge.

CASE 8.—Treated from January 24 to February 20, when she was taken from hospital, still having slight discharge.

CASE 9.—Treated from November 30 to December 29. Discharge present when leaving hospital on latter date.

CASE 10.—Treated from November 14 to December 24, when patient left hospital still discharging.

CASE 11.—Treated from June 14 to September 18. Three days before leaving hospital had profuse discharge.

CASE 12.—Treated from February 7 to July 26, when patient was reported without discharge. No report on smears.

In several of the above cases reports on smears were not recorded.

A comparison of clinical cases, for the purpose of judging the results of different lines of treatment, becomes of value chiefly when a large number of cases come under consideration, in which circumstance a better average as to intensity of infection and resistance of patients may be expected than in a limited number of cases, as in the above instances. However, the differences observed in these cases are sufficiently pronounced to at least attract one's attention to the possibilities of vaccine treatment in gonorrhea in the female.

It will be observed that in four of our cases treated with vaccine the clinical evidences of gonorrhea disappeared in from ten days to three weeks, and that the gonococcus was not to be found in smears made from wipings from the vaginal mucosa, taken at intervals of several days, and that of the remaining eight cases in all but three a cessation of discharge and a disappearance of gonococci from smears was attained after several weeks of treatment. In the more protracted cases a change of vaccine was made to *b* with very prompt results in two cases.

In three of our cases the sequences of treatment have been not a little handicapped by inability to control the disposition of them. When a child under treatment shows subsidence of clinical symptoms and a disappearance of discharge, and even has only one negative smear, she should be at once removed from a general venereal ward; in other words, she should be isolated to protect her at least from reinfection, as one attack of gonorrhea does not protect one from a second. The opportunities for infection and reinfection of female children in a gonorrheal ward are well known to pediatricians. To remain in a venereal ward, after patient has apparently cleaned up, means either opportunity for

reinfection or necessity for endless immunizations, at the same time recognizing the possibility of a recurrence. The three cases in question did clean up temporarily, but a recurrence occurred in one of them. In another the discharge which recurred disappeared and smears are negative.

Referring to the twelve cases, the results of treatment in which are used for comparison, it will be noted that in only three instances had the discharge disappeared during the time they were under treatment and in only one were negative smears reported. The finding of negative smears are, of course, necessary and all-important. In employing vaccine therapy you may often find after disappearance of the discharge positive smears quite indefinitely. Five of the cases treated locally were under treatment respectively 41, 48, 64, 96 and 176 days, the latter being the only one of the five in whom the discharge stopped. The remaining cases were under treatment from 24 to 31 days.

As previously stated, we believe that comparison as to the respective merits of treatment is ordinarily unsatisfactory unless it involves a large mass of material, still we believe that the above results are not without value in establishing the efficacy of vaccine therapy in gonorrhea in the female.

The contention might be raised that gonorrhea is aggravated in female children by local treatment and that its withdrawal might be expected to be followed by betterment. The possibility of this should be conceded, but when we are able to trace daily variation in the clinical manifestations with the ebb and flow of the wave of immunity, when we see within twenty-four hours a profuse discharge cease, and find negative smears coincident with a marked rise in the index, the above contention loses much of its weight and, in fact, must be excluded from consideration in calculating results.

If from our work any conclusions were permissible we believe it no exaggeration to state that vaccine therapy has a place in the treatment of gonorrhea in the female, that it appears to be far more efficient, at the same time scientifically more tenable, than local antiseptic treatment.

INFLAMMATORY CONDITIONS WITHIN THE ABDOMEN AND THORAX DIFFERENTIATED FROM APPENDICITIS.*

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The lesions most apt to simulate, and hence confounded with appendicitis, are: Salpingitis, ruptured pyosalpinx, ovarian cyst, strangulated by twisted pedicle, ovaritis and abscess of ovary, hematoma of broad ligament, cholecystitis, gallstone colic, perforated gastric ulcer, perforated intestinal ulcer due to typhoid fever, pneumonia and pleurisy, extrauterine pregnancy, intestinal obstruction, intussusception, volvulus,

* Read before the Chicago Medical Society, Feb. 5, 1908. For discussion see page 565.

renal colic, retroperitoneal abscess, strangulated hernia, acute pancreatitis, enteritis, inflammatory conditions of the ileum or caput coli in the immediate vicinity of the appendix, psoriasis, Pott's disease, acute indigestion, cholera morbus, ileocecal cancer, undescended testicle, twist and strangulation of omentum, diaphragmatic pleurisy, hypochondria, hysteria and neuralgia.

By way of illustrating the difficulty experienced in making a differential diagnosis of inflammatory lesions within the abdomen I wish first to report the following cases:

Miss M., aged 30. Symptoms very erratic, resembling mostly the symptoms usually found in cases of appendicitis, only more severe, the temperature ranging around 106 F. for three days. Pain and tenderness everywhere over the abdomen; somewhat more pronounced over the right side but not located especially at any point; consultation with noted surgeon and diagnostician resulted in his making a positive diagnosis of typhoid ulcer in the appendix, which subsequently proved to be wrong. One year later a laparotomy revealed a badly diseased right ovary, the appendix being found to be perfectly normal, thus demonstrating that the previous trouble was located in the right ovary; there was no history of previous primary infection, nor were we able to detect any evidences of inflammation of the ovary at the original examination.

Mrs. Mc., aged 26, taken ill with severe pain over upper part of right iliac and right hypochondriac regions. Temperature, 100 F.; pulse 108; palpation revealed most tenderness over the appendix. Consultation with a noted surgeon and pathologist; he made a positive diagnosis of appendicitis. Twenty-four hours later patient had severe chill and pain in left pelvic region, followed by rise of temperature to 103 F. A second consultation revealed abscess of left ovary, the pain and tenderness in the right iliac region disappearing immediately following the drainage of the abscess in the ovary to the opposite side.

Roy F., 6 years of age, operated upon for appendicitis eight months before by a noted surgeon who claimed to have removed the appendix; some weeks after operation he began bloating; had nausea, pain, vomiting, variations in temperature. Six months after operation had first attack of severe pain accompanied by nausea, pain, vomiting. Pain recurred at intervals of two weeks for a while, later pain nearly continuous, sometimes lasting all day and again returning in twenty-four to thirty-six hours. Symptoms were nausea, vomiting, distension and tenderness of abdomen. Consultation with several noted physicians and surgeons but not one venturing a positive diagnosis. Operation found intestines adherent to the scar resulting from former operation, a loop of the ileum was found passed between the adhesions.

Kate M., 9½ years old; she was taken ill March 5, 1906, with vomiting, headaches and abdominal pain, localized at McBurney's point. Pain very severe for three days; bowels constipated; temperature, 103. Two well-known physicians made a diagnosis of appendicitis. Examination, temperature, 103.5; respiration, 36 to 42; pulse, 100 to 110; auscultation revealed well developed pneumonia at base of left lung. Pain on the fifth day shifted from the right iliac region to the epigastric region; on the seventh day the temperature fell by crisis; after that date the epigastric pain disappeared.

W. D., boy, 11 years old; ill seventy-two hours; taken with nausea, vomiting, abdominal pain; most pronounced in the right iliac region. The physician who saw him had already made the diagnosis of appendicitis and advised operation, which was refused by the parents. Examination on fourth day; child suffering much pain; shallow respiration, 36 per minute; legs drawn up; no distension of abdomen; tenderness right iliac region; considerable rigidity of abdominal muscles. Temperature, 104; pulse, 106. The diagnosis of appendicitis seemed so positive an examination of the chest seemed uncalled for, but experience with an earlier case led me to consider the possibility of the abdominal symptoms being

referred entirely from the lung or the pleura. Examination of the chest revealed marked consolidation of the right lung. Crisis occurred on the sixth day when the abdominal symptoms disappeared.

O. L., 40 years old; taken with severe pains in right iliae and hypochondriac regions; some nausea; felt very sick; temperature, 101; pain so severe the first night had to take heroic doses of opiates to control it. Attending physicians made diagnosis of acute appendicitis. Pain more or less severe for several days, but confined more particularly to the right hypochondriac region; tenderness over same region; no jaundice; no history of previous hepatic trouble. Two weeks after onset of pain liver found to be much enlarged, extending two finger widths below costal arch; tenderness on pressure over the liver.

R. D., 5 years old; taken with nausea; pain in the right hypochondriac and epigastric regions. Temperature, 102; pulse, 110; moderate tenderness in hepatic and epigastric regions. Case diagnosed by prominent surgeons as acute cholecystitis. Case assumed subacute aspect for a number of days when there suddenly developed a slight chill; rise in temperature to 102; marked irritation of bladder; severe pain lower right inguinal region; tenderness over McBurney's point; typical symptoms and signs of suppurative appendicitis.

These cases illustrated how easily one may be deceived by the pseudo appendicular symptoms unless careful examination is made of other parts of the body. It would be impossible within the limits of this paper to describe fully all the conditions above mentioned, but I will give in some detail the points that seem of greatest importance.

Before taking up the differential diagnosis between appendicitis and the affections of other organs and tissues I would like to mention a condition of the appendix itself that might cause some difficulty viz.: the presence of foreign bodies in the appendix, causing localized pain without inflammation. This condition gives rise to colic lasting from one-half to three hours. Moderate tenderness may remain for three or four days. There is no fever, little or no fixed or reflex rigidity, but spasmodic rigidity on palpation may be marked. Henna described a case having a history of attacks of pain and vomiting, with weak pulse and tenderness over McBurney's point, but no temperature over 100. The attacks occurred every few weeks for three years. Operation revealed an appendix thickened but only slightly inflamed, and containing a sharp tack one-half inch long. The pain resembled that of renal colic.

Salpingitis, ovaritis or pyosalpinx may in many respects, both constitutionally and locally, present features resembling an unusually low appendicitis; thus in both there may be a history of preceding attacks. Both are characterized by pain, tenderness and fever, with more or less nausea, the symptoms of pyosalpinx are those of appendicitis in the pelvis with dysmenorrhea and menstrual irregularities and a history of pelvic trouble, as it is rare for inflammation of the tubes to occur without previous diseases of the uterus. The absence of intestinal symptoms and a history of gonorrheal infection point toward the adnexa as the seat of the inflammation. Careful vaginal and rectal examination will enable one to palpate the tender tube or ovary; the finding of a tumor attached at the right horn of the uterus makes the diagnosis positive. When a tumor exists in appendicitis it is usually located beneath the right rectus muscle opposite the anterior superior spine of the ilium. Pain and tenderness are usually noted at a lower level in tubo-ovarian

disease except in cases in which the appendix is of unusual length or the abscess is situated very low. In ovarian inflammation the pain is seldom referred to the stomach or umbilical regions as in the onset of appendicitis.

Another source of error in diagnosis is caused by the presence of a small cystic ovary which from time to time excites about itself a local peritonitis.

Ovarian cyst, ruptured or with a twisted pedicle, may simulate appendicitis more or less. The preponderance of signs pointing toward the disturbance of the menstrual rather than the intestinal functions, and the information obtainable by vaginal examination, will in the large majority of cases enable one to make a correct diagnosis or at least differentiate them from appendicitis.

Cholecystitis frequently calls upon our sharpest powers to differentiate from appendicitis. The diagnosis is extremely difficult when the appendix occupies a relatively high position, i. e., in the right hypochondrium or when the gall bladder by virtue of a complete mesentery descends lower than usual in the abdominal cavity. The tumor caused by a distended gall bladder is smoother and more pyriform in shape than is the swollen appendix; it is a fluctuant mass, it is continuous with the free border of the liver and moves with the liver in respiration. The pain is sharper than in appendicitis and extends upward toward the shoulder; the urine is apt to contain bile. By examination of the stools we may determine the presence or absence of bile, the stools being light in color to clay color, depending upon the amount of jaundice and the consequent absence of bile from the intestines. There may be a history of previous attacks with jaundice and the passage of gall stones with the feces.

Jaundice may be either present or absent; it may be persistent or it may be intermittent; it may be pronounced or slight, depending on the amount of obstruction to the flow of bile into the intestine. Thus, with obstruction of the cystic duct, we may have no jaundice; with obstruction of the hepatic duct we may have partial jaundice; with obstruction of the common duct we may have pronounced jaundice. A stone impacted in the common duct may leave a valve-like opening which permits of the escape of bile into the intestines. Then jaundice will not be present or will be but partial. When a distended common duct has become sufficiently open to allow the stone to float from its position of impaction the jaundice may be relieved by the flow of bile into the intestine, the stone becoming impacted; then the jaundice will be intermittent.

A careful examination of the above will show that jaundice is by no means a constant symptom, and the clinician should never hesitate to make a diagnosis of disease of the bile passages because of the absence of jaundice.

Gall Stone Colic: It must not be lost sight of that in gall stone colic the pain may be referred to the region of the groin, and hence may be mistaken for that caused by appendicitis; but the history of the sud-

den onset, and possibly the previous passage of calculi, clay-colored stools, the intensity of the pain, and its higher location and frequently its radiating upward and posteriorly to the scapula. The marked board-like rigidity of the abdominal wall, the pulse not being accelerated and the absence of temperature, should be very suggestive of the former.

Gastric Ulcer: The pain of a perforated gastric ulcer is not always sudden in its onset and, therefore, peritonitis may be present before the condition is recognized; but in cases of abdominal pain, when there is reasonable doubt, the abdomen should be opened before peritonitis occurs, as it is better to err on this side than to defer operation until too late to accomplish any good. The absence of liver dullness in perforation of the gastro-intestinal canal, particularly in perforated typhoid ulcer, is not always significant, as this condition may be brought about by great distention of the colon. The passage of fluid from the stomach into the lower abdomen in some cases may explain this position of pain.

Duodenal Ulcer: In perforated duodenal ulcer the inflammatory exudate of the extravasation of the contents of the bowel may extend so far downward as to simulate an appendiceal abscess, and when the patient is first seen after this extension of the process has occurred it may be impossible to differentiate between the two conditions until after the abdomen has been opened. If an accurate history of the attack is obtainable, however, or if the case is seen at the time the perforation occurs, the different location of the symptoms and the more marked shock, together with a history of more or less chronic pain in the duodenal region, should enable a differential diagnosis to be made.

Tubercular ulcer of the intestine with local peritonitis is generally more insidious than appendicitis, adhesions are greater and diarrhea is common. Tenderness is less acute and the fever is hectic. Ascites is an early and marked symptom.

Typhoid ulcer in ambulatory cases is distinguished by the Widal reaction and by the absence of leucocytosis. The gradual onset of typhoid, moreover, is in contrast with the acute symptoms of appendicitis.

Pleurisy and pneumonia are often ushered in by constipation, abdominal pain, tenderness and distention and rigidity of the rectus muscle. When the pleurisy or pneumonia involves the right lower lobe, especially in children, the symptoms of appendicitis may be so simulated that the physician or surgeon may be completely deceived as to the seat of the inflammation. The literature is full of cases in which the early diagnosis of appendicitis was based on symptoms later found to be due to pneumonia or pleurisy. The number of operations performed for supposed appendicitis in cases of pneumonia is probably not large, but enough have been recorded to emphasize the very grave danger of making this mistake, especially in children. Messalongo records five such operations. Morse reports two cases in children operated on by prominent Boston surgeons. Richardson reports five cases in children. In cases of pseudo-appendicular pneumonia the difficulty in diagnosis is usually cleared up by the third or fourth day, by which time the ab-

dominal symptoms lessen and the signs of pneumonia are likely to be detected. The rapid respiration, which is out of all proportion to the pulse rate or the pyrexia; the relaxation of the abdominal walls between respirations, the sudden rise of temperature to 103 or 104 F., and the tendency to remain high, the absence of weak or irregular pulse, superficial tenderness disappearing under firm pressure by the flat of the hand, the possible presence of cough, all speak against appendicitis and for pulmonary disease. At most, the difficulty only lasts till the signs of pneumonia or pleurisy develop. In children presenting such symptoms it behooves the physician to make early and repeated examination of the chest; therefore, no operation for appendicitis should be performed until after a careful examination of the chest has been made.

Extrauterine pregnancy occurring on the right side of the pelvis presents a movable tumor at the side of the uterus with a history of menstrual irregularity, morning nausea, breast signs and attacks of faintness, without fever. Rupture is indicated by severe pain, extreme pallor, hemorrhage and collapse with progressively weakening pulse.

Acute intestinal obstruction, the severity of the pain and nausea and vomiting simulate appendicitis, and there may be a tumor with tenderness, but the tumor is not necessarily in the region of the appendix. It is more movable and the patient offers less resistance to manipulation, as a rule its onset is more abrupt, pain of severer type, remissive in character, and referred frequently, though not always, to the seat of the obstruction. There are absolute constipation and suppression of flatus, with early and persistent vomiting, soon becoming fecal, a condition rarely occurring except in the later stages of appendicitis. Shock and collapse appear earlier in obstruction than in appendicitis.

Intussusception without a palpable tumor requires a great deal of care in differentiation, otherwise an error may be made. With a proper examination and history in a typical case the diagnosis is not difficult. Pain, colic and vomiting are intense and severe from the time of onset. Bloody stools and tenesmus are almost constant. Temperature shows little or no elevation at the onset, and in the presence of a typical tumor palpable through a more or less lax abdominal wall only moderately hyperesthetic our diagnosis should be complete.

Volvulus is of sudden occurrence, attended by severe pain and symptoms of absolute obstruction, localized area of tympanitis and tenderness over the twisted intestinal loop.

Acute indigestion: From acute indigestion the diagnosis is often difficult at the onset and may be impossible for twenty-four hours. The pain is usually less severe, but the temperature is higher. The pain is not usually localized, and if so it is more apt to be in the epigastrium or umbilical regions. But the same may be true of appendicitis, and in the presence of pain, vomiting, localized tenderness and severe constitutional symptoms appendicitis is never to be lost sight of. With the former diarrhea is the more frequent, while in appendicitis the reverse is true.

Strangulated inguinal hernia is usually not accompanied by a rise in temperature or abdominal rigidity. Examination of the hernial orifices should be made in all suspected cases of appendicitis.

Renal Colic: An attack of renal colic, attended as it is by pain referable to the loin more perceptible posteriorly than anteriorly, and shifting in the direction of the groin along the course of the ureter into the ovary or testicle, with tenderness of the kidney, the presence of blood in the urine, and particularly if the patient has suffered like attacks in the past, would be of great value in excluding serious intraperitoneal lesions. There is usually absence of temperature and abdominal rigidity. Inflamed and diseased conditions of the right ureter may deceive. Yet a careful examination of this structure ought rarely leave us in doubt as to its condition. Vaginal or rectal examination shows the ureter thickened, swollen and irregular when diseased, passing upward and outward (to the side of the broad ligament in the female), over the posterior pelvic wall to the pelvic brim and thence, by abdominal palpation, can be traced upward to the loin. When such information as to the character of its walls is combined with the knowledge obtained by cystoscopic examination and by catheterization of its lumen, we can but rarely be left in doubt as to its condition.

Enterocolitis may generally be differentiated by the absence of local tenderness, rigidity and tumor. And the characteristic diarrhea of this condition is uncommon in appendicitis. The pain is localized along the transverse colon and is most severe over the hepatic and splenic flexures with centers of less pain in the iliac fossæ. In general it may be said that the symptoms in enterocolitis reach their maximum intensity very early and maintain their severity for some time undiminished, while the symptoms of appendicitis are more progressive.

Mucous colic or membranous enteritis in nervous women occasionally simulates appendicitis, but the absence of fever and local tumor, together with the various stigmata of hysteria, will help to differentiate.

Cellulitis or inflammation of the cellular tissue behind the colon and peritoneum which sometimes extends into the psoas muscle. Such cellulitis is usually secondary to an infection from the genital organs and hence is very liable to be associated with a similar condition of the pelvic connective tissue. The history of recent childbirth or abortion and the presence of pelvic cellulitis which can be traced upward into the posterior cellular tissue of the abdomen aid considerably in forming the diagnosis. When the psoas muscle is also involved the thigh is flexed, complete passive extension is painful, and complete active extension is impossible. We must also remember that such cellulitis is quite often secondary to an appendicitis or ulcer of the colon. But in this case there is usually no pelvic involvement and there is a history of former appendicitis or colitis.

The iliac glands also may present a tender mass in the right iliac fossa when inflamed. Izard noted such a mass, which subsided after

opening a bubo. In another case the enlarged gland was due to infective osteomyelitis of the ilium.

Acute pancreatitis, always more or less obscure and confusing as to symptoms, may in rare cases simulate appendicitis. The sudden violent colicky, epigastric pain which later becomes general, dullness and distension typical of this disease are located in the epigastric region. The nausea and intractable vomiting are more persistent. The temperature may be subnormal at first and fever may begin with a chill. Tenderness and rigidity over the epigastrium, together with marked collapse, small and rigid pulse and often cyanosis. The early constipation is followed by fatty diarrhea and tender spots from fat necrosis may appear scattered over the abdominal wall. The diagnosis is still more probable if this group of symptoms occurs in a middle-aged man who is corpulent and has gastro-intestinal catarrh, arteriosclerosis or a history of alcoholism, gallstones or injury. Brennecke reported a case in which dullness extended from the region of the appendix to that of the gall bladder, the diagnosis lying between disease of these two organs. Postmortem examination showed gangrenous pancreatitis.

Perityphilitic or perinephritic abscess may be secondary to appendicitis. The abscess taking this course rather than a peritonitis, and the pus may then track up the back for a considerable distance, where it may be opened in the loin. In primary cases of the latter there is rarely disturbance of intestinal function.

Psoitis, usually traumatic in origin, associated with deformity due to retraction of the thigh, typical findings of appendicitis rarely accompany psoitis, more frequently taken for Pott's disease.

Potts' Disease: The absence of intestinal symptoms, curving of the lumbar spine when the limb is brought into a fully extended position, inability to execute the normal movements of the joint, and pain referred to the knee, are usually sufficient to characterize the disease of the hip joint.

Dietl's crisis from twisting of the ureter of a floating kidney causes excruciating pain, nausea and a tender tumor which is rather freely movable. Rigidity is not marked, the kidney shape of the tumor is characteristic, there is no fever, and the symptoms subside suddenly with the untwisting of the ureter, followed by a copious discharge of urine. There is no disturbance of the intestinal functions.

Carcinoma of the appendix sometimes simulates appendicitis, especially the chronic form. Rolleston and Jones conclude that a differential diagnosis is impossible in certain cases, and from the microscopic size of the growth I think that many cases of carcinoma have been overlooked in operations for appendicitis. It is a matter of recent history that one of our most prominent educators was operated on for appendicitis and died a few months later of carcinoma in the immediate vicinity. The absence of fever, the age of the patient and the cachexia should offer differential points, but Eccles reports a case in a youth of 18 years.

Neuralgia: Neuralgic pains along the lower lumbar nerves are frequently falsely ascribed to appendicitis. The entire absence of any local evidence of appendicitis, outside of pain, with the distribution of the painful area in accordance with the distribution of the nerves, should render possible the making of the diagnosis.

34 Washington Street.

BOOK NOTICES.

TREATMENT OF INTERNAL DISEASES, FOR PHYSICIANS AND STUDENTS. By Dr. Norburt Ortner, of the University of Vienna. Edited by N. B. Potter, Instructor in Medicine, Columbia University. J. B. Lippincott Company, Philadelphia and London.

A work on the treatment of diseases originating in the center of therapeutic nihilism, arrests the attention at once and a reading of the contents of this work proves that the therapeutics have not been altogether neglected in the Austrian center of medicine. The work is strictly-up-to-date, scientific in every detail, condensed, advises standard remedies, is just such a work as should be in the hands of the young practitioner, and should be found on the table of every believer in rational therapeutics. No better antidote to the nostrum prescribing habit could be procured. A chapter on the therapy of neurasthenia by Dr. Potter is not the least valuable part of the work.

A TEXT-BOOK OF MINOR SURGERY. By Edward Milton Foote, A.M., M.D., instructor in surgery, College Physicians and Surgeons (Columbia University); lecturer on surgery, New York Polyclinic Medical School; visiting surgeon, New York City Hospital; visiting surgeon, St. Joseph's Hospital; consulting surgeon, Randall's Island Hospitals and Schools; formerly chief in surgery at the Vanderbilt Clinic. Illustrated by 407 engravings from original drawings and photographs. D. Appleton & Co., New York and London, 1908.

The book deals with the so-called minor surgery which comes to every general practitioner. The author has depended largely upon his own personal experience and has taken freely from the literature on this subject. The illustrations are frequent and clear. The description of all minor surgical ailments is accurate, and the treatment suggested involves the latest and best methods of curing minor surgical conditions. The book fills a very important vacancy in our literature for ready references for the general practitioner.

APPLIED PHYSIOLOGY. A manual showing functions of the various organs in disease. By Frederick A. Rhodes, M.D., Professor of Physiology and Embryology, Medical and Dental Departments of the Western University of Pennsylvania. Late Physician-in-charge to the Reineman Hospital and the Kaufman Clinic, and formerly assistant to the Chair of Clinical Medicine, West Penn Medical College, etc. Medical Press, Pittsburg, Pa., 1907.

The author has departed somewhat from the usual method of medical writing and has given in good form a scientific explanation of the symptoms of diseased conditions. It is a study of the physiological development of pathology. It considers the methods by which pathological anatomy is produced. The subject has been very well handled and the classification of the subjects is good. The book is to be recommended and has a decided place in the medical library.

MANUAL OF THE DISEASES OF THE EYE. For students and general practitioners. By Charles H. May, M.D., Chief of Clinic and Instructor of Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, 1890-1903; Ophthalmic Surgeon to the City Hospitals, Randall's Island, New York; Consulting Ophthalmologist to the French Hospital, to the Gouverneur Hospital, and to the Red Cross Hospital, New York; Adjunct Ophthalmic Surgeon to Mt. Sinai Hospital, New York, etc. Fifth edition, revised, with 362 original illustrations, including 22 plates, with 62 colored figures. William Wood & Company, New York, 1907.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY.

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MAY, 1908.

THE MEDICAL PROFESSION AND THE TEMPERANCE CAMPAIGN.

The remarkable campaign for the abolition of dram shops that has swept over the state, and the active part that the medical profession has taken on one side or the other, furnishes an opportunity to review the history of this subject for the past century.

In the early (agricultural) days of Illinois drinking was universal, whiskey was untaxed and cheap and all merchants kept a barrel on tap, with a tin cup convenient, inviting customers to drink without limit or hindrance. No log-rolling or barn-raising was complete without an ample supply of stimulants, and the festivities were often followed by brawls sometimes disastrous in their outcome. Every large landholder possessed a distillery, and whiskey and high wines, shipped to the south, formed a large part of the commerce of the agricultural communities. Every hotel office was an appendage of the barroom. Every private house had its sideboard or cupboard and decanter. Every housewife had her favorite "bitters" close at hand. It was universally given to the new-born infant and the dying adult.

The first popular great protest against the use of liquor was the Washingtonian reform which swept over the country about 1840. By reason of it many of the better class of citizens abandoned the manufacture and use of liquor and bars were abolished from the hotels or placed in separate rooms. Fewer of the leading citizens of every community considered it no disgrace to be taken home by their companions in a state of maudlin drunkenness. The wars of 1846 and 1861 were probably responsible for a partial relapse to former conditions and the formation of dissipated habits by the oncoming generation. These wars were followed by the temperance crusade of 1873, which had its origin in Ohio and represented the protest of the motherhood of the country against the results of intemperance on the home. It rapidly spread over all the western states and exerted a great influence. Drunkenness became still less frequent and it was no longer considered a necessary sign of manhood to become intoxicated. The character of the persons handling the business of dispensing liquors fell still lower as a general rule. The saloons passed largely from the possession of individual owners and became commission houses for brewers and distillers. Licenses for sale of liquors became gradually higher and higher, and in order to make both ends meet saloon-keepers seemed to find it necessary to violate the laws requiring early and Sunday closing and forbidding the sale of liquors to minors. Wine-rooms, rooming houses, and vaudeville shows were often added as attachments, and liquors were sold to habitual drunkards; thieves, confidence men and gamblers made certain saloons their headquarters, and thus there came into existence places which were known to be detrimental to public morals and injurious to public health. As a result a wave of local option or prohibition, starting in the west and south, has swept across the country, and large sections of many states, among them Illinois, have become "dry" territory.

It is not to be supposed that the evil effects of intemperance will be wiped away by this one wave of reform, and it remains to be seen just how enduring this effort will become. The medical profession better than any other portion of the community has knowledge of the blighting effects of intemperance. They know that at least 20 per cent. of insanity arises from it, and that a large part of the existing poverty and crime have their origin in its use. They know that the use of alcohol in every form has greatly decreased in the treatment of diseases until now very few prescriptions of wines, liquors and beer are written by the thinking profession. Forty years ago alcohol was considered a stimulant. To-day it is known to be a poison. In all diseases of the liver and kidneys its use is absolutely interdicted. Less and less is it being used in the treatment of any disease. It will thus be seen that the medical profession has an especial interest in this subject and we doubt not will lend its influence to the perpetuation of the present movement for the abolition of the liquor traffic. In many of the cities the names of medical men are found in the membership of organizations formed to see that the prohibition laws are enforced.

THE OHIO STATE REPUBLICAN CONVENTION AND THE MEDICAL PROFESSION.

The recent Republican convention held in Ohio was noteworthy for the fact that a plank was placed in the platform distinctly favoring "the organization of all existing national public health agencies into a single health department." Never before, we believe, has any political party given voice to an endorsement of the claims of the medical profession for recognition by the United States government. It is interesting to review the method by which this was brought about. The *Ohio State Medical Journal* for April informs us that more than 10 per cent. of the members of this convention were physicians, or, to be more accurate, 89 of the 815 delegates.

At a meeting of these 89 delegates, held prior to the general convention, a resolution was passed asking to have inserted a plank in the party platform bearing on the National Bureau of Health, and this committee secured an audience before the Committee on Resolutions and introduced Dr. C. A. L. Reed of Cincinnati, who presented the merits of the matter so clearly and forcibly that the Hon. Theodore Burton, the chairman, remarked: "The subject is most worthy, and is worthily presented, and must receive the same consideration with other subjects of equal importance." It received this consideration and a great step in advance was secured. If other states will follow in the lead of the profession in Ohio it will only be a matter of a short time until a national health department becomes a reality.

We congratulate the profession of Ohio for their political activity, and we congratulate the party for its decisive action and trust that this very necessary innovation will not be long delayed.

SURGEONS OF ILLINOIS REGIMENTS IN THE MEXICAN WAR, 1846-47.

Considerable interest has been manifested in the historical sketch appearing in THE JOURNAL for March, 1908, by Dr. W. O. Ensign, and we hope that further studies may be stimulated thereby. So far as we know, no effort has been made to write up the medical history of the Mexican War, and possibly it is not too late for some one to undertake this or at least to give some sketches of the surgeons serving in that struggle. Judge Moses in his History of Illinois gives the names of the following medical men serving at that time as surgeons of the Illinois Volunteers. The colonels of the regiments are given, as well as the numbers of the regiments, as a clue to those interested in this subject. We hope the older members of the society will take this matter up and communicate what knowledge they have of these men.

The names are as follows: First Regiment, colonels, John J. Hardin, William Weatherford; surgeons, James H. White, Wm. H. L. Wallace. Second Regiment, colonel, Wm. H. Bissell; surgeon, Edward B. Price. Third Regiment, colonel, Ferris Foreman; surgeon, James Mahan.

Fourth Regiment, no surgeon given. Fifth Regiment, colonel, Edward W. B. Newby; surgeons, Daniel Turney, James D. Robinson. Sixth Regiment, colonel, James Collins; surgeon, John L. Miller.

THE MEETING OF THE STATE SOCIETY AT PEORIA, MAY 19, 20 AND 21, 1908.

We have received the following statement from Dr. O. B. Will of the Committee of Arrangements for the annual meeting. He writes us that this contains all the information liable to be of interest to members of the state society outside of the official program. The preliminary program was printed in our April issue and shows that as usual the papers read will be worthy of the profession and the great state represented at this meeting.

The prevailing rate of all railroads in Illinois is 2 cents per mile, which is exactly the sum members of the state society have been paying for many years, and our members in addition will be able to attend the meeting without having the bother of securing certificates and being required to have them signed by a representative of the railway companies at the meeting. In many ways this will be a distinct advantage over the old plan of procedure, and we trust the attendance will be increased on this account.

When Gen. Anthony Wayne made the treaty with the Indians in August, 1795, mention was made of the old Piorias fort and village near the south end of the Illinois lake on said Illinois river, thus indicating that the present site of Peoria is one of the oldest landmarks in the Mississippi Valley, and it can well be imagined that its beautiful situation on the banks of Lake Peoria, almost midway between the Great Lakes on the north and a river abounding in fish, surrounded by fertile prairies filled with game, was a favorite location for the aborigines. Peoria has now become a city of large size and well repays a visit. Dr. Will says:

"The Committee on Arrangements for the forthcoming meeting of the Illinois State Medical Society at Peoria desire to call attention to the fact that a most strenuous effort is being made to meet all the most exacting requirements of such a gathering. In its social as well as scientific and business aspects the meeting is intended to be a notable one in the history of the organization, if the combined efforts of the society officials and local professional zeal and energy can stimulate accomplishment of that purpose.

"The general meetings will be held in Music Hall, Women's Club Building, diagonally across the block from headquarters at the National Hotel. The public session on Tuesday evening will be held at the same place. All exhibits will be placed in the ground-floor rooms of the same building. The House of Delegates, the Medicolegal Committees, Councils, etc., will be provided with accommodations in the assembly rooms

of the National Hotel, within speedy access to the place of general sessions.

"The registration bureau will be located in the exhibit hall, on the ground floor of the general meeting place, where badges, banquet tickets, invitations, cards of admission to ladies' entertainments, may be secured, together with any desired information respecting accommodations, meetings, localities, routes, etc.

"The banquet (with vaudeville attachments) on Wednesday evening will be served in the dining hall of the Creve Coeur Club Building, corner of Jefferson Avenue and Liberty Street, three squares south of hotel headquarters.

"The place of meeting of the general and sectional sessions is within easy walking distance of all the leading hotels and yet in a locality chosen for its freedom from disturbing external noises.

"The entertainment arranged for visiting ladies, on Wednesday afternoon, will be given on the beautiful grounds of the Country Club, on the heights above the city, furnishing one of the most attractive views in the state. Transportation will be furnished for all ladies who may desire to attend the luncheon and musical provided for the occasion. Boat rides on the river may attract many, and altogether a pleasant time is promised the fair sex by Doctors Marcy and Kelly, who have the matter in charge.

"One of the most interesting, and certainly profitable, opportunities extended the members of the visiting profession, outside the well-selected and varied scientific program, is that of a visit to the State Hospital for the Insane at Bartonville on the heights below the city. The superintendent of that institution, Dr. George Zeller, extends a most hearty invitation to all members of the attending profession and those accompanying them to visit his family of two or three thousand inmates living happily together under the non-restraint system, which has attained national renown. Transportation to and from the city is frequent and rapid.

"With its fourteen different steam railway lines radiating in all directions, together with three interurban trolley lines, nothing is lacking in the way of easy access to Peoria. The railway lines between Peoria and Chicago (C., R. I. & P., Alton, and Wabash), with their twelve trains a day each way, afford ample opportunity for ready and comfortable ingress and egress to and from all points on their several routes, including the metropolis of the lakes.

"In addition to the list of hotels published in an earlier issue of THE JOURNAL, there are numerous smaller hostleries and lodging houses, in respect to which information may be secured by addressing Dr. O. B. Will, Subcommittee on Hotels and Accommodations, or from a member of the committee located at the registration desk.

"The elaborate boulevard and park system for which Peoria is famous amongst the medium-sized cities, its numerous places of amusement, beautiful scenery, fine opportunities for boating with all sorts of craft, together with the proverbial hospitality of its citizens, leave nothing to prevent enjoyment of a week within its borders."

OFFICIAL PROGRAM

OF THE FIFTY-EIGHTH ANNUAL SESSION OF THE ILLINOIS STATE
MEDICAL SOCIETY, TO BE HELD AT PEORIA, MAY
19, 20 AND 21, 1908.

COMMITTEE OF ARRANGEMENTS.

E. M. Eckard, Chairman.....	Peoria
E. B. Barbour, Secretary.....	Peoria
A. J. Kanne, Treasurer.....	Peoria
O. B. Will.....	Peoria
W. R. Allison.....	Peoria
S. M. Miller.....	Peoria
C. U. Collins.....	Peoria
M. S. Marcy.....	Peoria
P. H. Kelly.....	Chillicothe
F. B. Lucas.....	Peoria
G. A. Zeller.....	Peoria

ORDER OF PROCEEDINGS.

Registration Office on first floor (exhibit room) Women's Club Building, diagonally across the block on which National Hotel (Headquarters) are situated.

FIRST DAY—MORNING.

8:30. Call to order of House of Delegates by the president in Assembly Hall, sixth floor National Hotel.

9:00 Call to order in General Session by the president in Music Hall, second floor Women's Club Building, William L. Baum, Chicago.

Invocation, Rev. J. H. Moran, Peoria.

Report of Committee on Arrangements, E. M. Eckard, Peoria.

Announcements by the president.

9:15. Call to order of Section One for the reading and discussion of papers.

1:00 p. m. Adjournment.

FIRST DAY—AFTERNOON.

2:00. Call to order for continuation of work of Section One.

6:00. Adjournment.

FIRST DAY—EVENING.

8:00. Music; to be followed by calling to order by first vice-president, C. W. Lillie, East St. Louis.

Invocation, Rev. Francis J. O'Reilly, bishop St. Mary's Cathedral, Peoria.

Address of welcome by Hon. Thomas O'Connor, mayor of Peoria.

Response on behalf of the society by the president.

President's annual address, "The Medical Profession and the Public," William L. Baum, Chicago.

Address Section One, Charles Louis Mix, Chicago.

SECOND DAY—MORNING.

8:30. Call to order of Section Two.

9:00. Call to order of the Secretaries' Society (in Assembly Room, National Hotel) by C. H. Lovewell, president, Chicago.

House of Delegates meet pursuant to adjournment.

1:00 p. m. Adjournment.

SECOND DAY—AFTERNOON.

2:00. Call to order for continuation of work of Section Two.

Call to order of the Medicolegal Committee (in Assembly Room of National Hotel immediately at close of secretaries' meeting) by Harold N. Moyer, chairman, Chicago.

6:00. Adjournment.

SECOND DAY—EVENING.

7:00 to 8:00. Reception by the local profession in the parlors of the Creve Coeur Club House.

8:00. Banquet, with vaudeville attachments and music. Banquet hall of Creve Coeur Club House. Dr. S. M. Miller, master of ceremonies.

THIRD DAY—MORNING.

8:30. Call to order of Sections One and Two in joint session for consideration of Borderland cases.

11:00. Call to order in general session by the president to receive report of House of Delegates.

1:00 p. m. Adjournment.

THIRD DAY—AFTERNOON.

2:00. Call to order for completion of joint session.

Induction of president-elect.

Final adjournment.

NOTE.—The Committee on Arrangements has made all preparations necessary for lively entertainment of visiting ladies at the Country Club, including transportation for those who secure tickets at the registration office.

PROGRAM.

SECTION ONE—TUESDAY.

Practice of Medicine, Medical Specialties, Materia Medica, Therapeutics, Etiology, Pathology, Hygiene, State Medicine and Medical Jurisprudence.

Chairman.....S. E. Munson, Springfield

Secretary.....George Edwin Baxter, Chicago

ADDRESS, Charles Louis Mix, Chicago.: "Self Cure by Advertised Medicine; or, Does It Pay to Have a Doctor"?

1. Arteriosclerosis, T. J. Pitner, Jacksonville.

2. Prognosis in Cardiac Inefficiency, George W. Webster, Chicago.

3. The Psychopathology of Hysteria, S. T. Robinson, Edwardsville.
Discussion to be led by L. H. Mettler and Julius Grinker, of Chicago.

4. The Serum Diagnosis of Syphilis, William J. Butler, Chicago.

SYMPOSIUM ON THERAPEUTICS.

5. Study of Diagnosis and Pathology Should not Lessen Our Confidence in the Intelligent Use of Drugs, Thomas W. Bath, Bloomington.

6. Pathology versus Therapeutics, Homer A. Millard, Minonk.

7. The Value of Drugs in the Treatment of Disease, E. B. Montgomery, Quincy.

Discussion to be led by H. H. Fletcher, Winchester.

8. Necessity of Greater Knowledge of Materia Medica, Arthur R. Edwards, Chicago.

9. Energy Value of Foods, Winfield S. Hall, Chicago.

10. The Practical Application of Food Values in Every-Day Practice in the Nutrition of Children from the Age of Nine Months to Puberty, Josephine Milligan, Jacksonville.

11. The Control of Hyperacidity by Diet and Drugs, M. Milton Portis, Chicago.

12. Dietary Control of Gastrointestinal Disorders. Ralph W. Webster, Chicago.

13. Some Points Concerning the Treatment of Diabetes, with Special Reference to the Oatmeal Diet, James B. Herrick, Chicago.

14. The Drug Treatment of Cardiovascular Conditions, Joseph L. Miller, Chicago.

15. The Dietetic Treatment of Pulmonary Tuberculosis, Frederick Tice, Chicago.

16. Some Uses of the X-Ray in the Hands of the Practitioner, George S. Edmondson, Clinton.

17. The Technic of the Rest Treatment, Frank P. Norbury, Jacksonville.

Discussion to be led by H. T. Patrick, Chicago.

18. Baths and Exercise in the Treatment of Heart Disease, Robert H. Babcock, Chicago.

19. Five Hundred Consecutive Cases of Alcohol: A Clinical Study and Statistic Comparative Report, J. F. Hultgen, Chicago.

20. How Shall We Apply the New Tuberculosis Sanitarium Law?

(a) The Law; the Possibilities; the Needs It Supplies, Henry B. Favill, Chicago.

(b) The Resources Available, E. J. Brown, Decatur.

(c) The Dispensary: General Scheme and Application Under the Law, Ethan A. Gray, Chicago.

(d) The Sanatorium: Its Function and Value, J. W. Pettit, Ottawa.

SECTION TWO—WEDNESDAY.

Surgery, Surgical Specialties and Obstetrics.

Chairman.....E. Wyllys Andrews, Chicago

Secretary.....W. B. Helm, Rockford

ADDRESS, John Young Brown, St. Louis: "The Importance of Early Diagnosis and Prompt Surgical Treatment of Injuries to the Diaphragm."

1. Treatment of Joint Tuberculosis, Edward H. Ochsner, Chicago.

2. Placenta Prævia, with Report of Case, F. D. Hollenbeck, Chicago.
3. An Interesting Case in Diagnosis Confirmed by Surgical Operation, C. G. Horrell, Galesburg.
4. The Treatment of General Peritonitis Complicating Appendicitis, Daniel N. Eisendrath, Chicago.
5. Diagnosis and Treatment of Acute Tenosynovitis of the Hand, Allen B. Kanavel, Chicago.
6. The Significance of Inflammation and Its Treatment, S. C. Stremmel, Macomb.
7. Fracture Basis Cranii with Diastasis of Left Temporo-Parietal Articulation, Ending in Complete Recovery, George de Tarnowsky, Chicago.
8. Some Phases of Frontal Sinus Surgery, A. E. Prince, Springfield.
9. Tuberculosis of the Mammary Gland, William Fuller, Chicago.
10. Psychic Aberrations Associated with the Diseased Prostate Gland, J. F. Percy, Galesburg.
11. Resection of the Stomach for Carcinoma, with Report of One Hundred and Sixty-three Cases Operated on in the Breslau (Germany) Clinic, R. A. Noble, Bloomington.
12. Intestinal Carcinoma, J. W. Hairgrove, Jacksonville.
13. Traumatism of the Brain, J. W. McDonald, Aurora.
14. Diagnosis in Spinal Surgery, Julius Grinker, Chicago.
15. Surgery of the Spinal Cord, with Special Reference to Traumatic Lesions of the Cord, R. C. Bourland, Rockford.
16. Obstetrical Work by Country Doctor, C. B. Brown, Sycamore.
17. Fractures of the Shaft of the Femur, H. C. Mitchell, Carbondale.
18. The Third Stage of Labor, E. E. Davis, Aurora.
19. Extrauterine Pregnancy and Hematocele, with Cuts and Slides, A. Belcham Keys, Chicago.
20. Further Studies in the Diagnosis and Treatment of Fistulous Tracts with Bismuth Paste, Emil G. Beck, Chicago.

JOINT SESSION OF SECTIONS.

BORDERLAND CASES—THURSDAY.

1. A Chapter in Medical Gynecology, O. B. Will, Peoria.
2. The Ophthalmoscope in General Practice, Cecil M. Jack, Decatur.
3. Fetal Death in Utero, C. G. Smith, Red Bud.
4. A Plea for More Active Co-operation with the Local Secretary, C. Hubart Lovewell, Chicago.
5. Some Observations on Ophthalmia Neonatorum, Willis O. Nance, Chicago.

COUNTY SECRETARIES' SOCIETY.

President.....C. H. Lovewell, Chicago
 Secretary.....D. G. Smith, Elizabeth

MEETING PLACE—NATIONAL HOTEL.

WEDNESDAY—9 A. M.

1. How to Make the Secretary's Work Easier, H. N. Rafferty, Robinson.

2. What Can a Secretary Do to Obtain More Members? E. W. Fiegenbaum, Edwardsville.

3. What the President Can Do to Help the Secretary, R. A. McClelland, Yorkville.

4. The Problem of the Small County Society, H. M. Ferguson, Morris.

5. How Does Postgraduate Study Help the County Society? Marion K. Bowles, Joliet.

MEDICOLEGAL COMMITTEE.

Chairman.....Harold N. Moyer, Chicago

MEETING PLACE—NATIONAL HOTEL.

WEDNESDAY—AFTERNOON.

. All members are cordially invited to attend this meeting and take part in a general discussion of the work of this Committee.

Correspondence.

**NORTHWESTERN UNIVERSITY MEDICAL SCHOOL CLASS
REUNION.**

TO THE EDITOR ILLINOIS MEDICAL JOURNAL, Springfield, Ill.

Dear Doctor:—In connection with the approaching session of the American Medical Association, special reunions are to be held on the evening of June 2. It has been decided to combine the annual commencement dinner tendered to the graduating class and the alumni, by the faculty of Northwestern University Medical School, with the alumni banquet to be held during the meeting of the American Medical Association. This dinner will be held at the Illinois Athletic Club on Michigan Avenue on the evening of June 2. It is hoped that all graduates of the Northwestern University Medical School will be present at the meeting of the association and will attend this dinner. In order that this notice may reach all of our alumni we shall greatly appreciate it if you will announce this dinner through the news columns of your journal.

Thanking you for any courtesies in this direction, we remain,

Very truly yours,

GEORGE W. WEBSTER,

S. C. PLUMMER,

F. R. GREEN,

Committee.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

The fifty-eighth annual meeting of the Adams County Medical Society was held in the Elks Club rooms April 13, 1908, from 11 a. m. to 4 p. m. The President, Dr. J. H. Rice, and a large number of the profession were present. The Committee on Revision of the Constitution and By-laws made their report. Resolutions of thanks to the city press for their generous free advertising of Dr. Pettit's lecture to the laity on the evening of March 9 were adopted. The applications of Dr. Heitman, of Tioga, Ill., and Dr. Haxel, of Fowler, Ill., were read and referred to censors. The report of the Committee on Library matter was read and their report made a special order of business for the May meeting. The society then adjourned to the Hotel Newcomb, where a large number had luncheon together. After returning to the club rooms the election of officers was then taken up. Dr. J. B. Shawgo was elected president; Dr. Walter Wessels, Mendon, first vice-president; Dr. W. H. Baker, second vice-president; Dr. C. A. Wells, secretary; Dr. R. J. Christie, Jr., treasurer; Drs. Joseph Robbins, F. T. Brenner and G. A. Lierle, censors; Drs. F. M. Pendleton, L. B. Ashton and Kirk Shawgo, were elected as trustees, who, when the now pending revision of the constitution and by-laws are adopted, will also act as the Library Committee. Dr. Rice, the out-going president, thanked the society for its support and cooperation and then introduced the new president, Dr. J. B. Shawgo, who voiced his appreciation of the honor. The thanks of the society were voted to Dr. Rice, the secretary and officers of the society for the most successful year of the society just closed. The society then adjourned to the Masonic Hall, where Dr. Ezra R. Larned, of Parke, Davis & Co.'s laboratories at Detroit, gave his splendid lecture, illustrated by many views by the stereopticon, on "The Practical Application of Bacteriology to the Cure of Disease." The auditorium was comfortably filled by members of the profession and nurses from the city and the Blessing Hospital Training School. A rising vote of thanks was given Dr. Larned for his fine address.

CLARENCE A. WELLS, Secretary.

CLARK COUNTY.

The society met in Dr. Bradley's office, Marshall, Ill., at 2 p. m. Members present: Prewett, Smith, Johnson, Mitchell, Ryerson, S. W. Weir, Bradley, Pearce, L. J. Weir. Visitors: Drs. J. Y. McCullough and Jumper. The subject of the meeting, "Obstetrics," was presented by Dr. Prewett. Among other things, he urged care in waiting on ordinary cases or one will do too much. He cited a few cases with serious complications and their treatment—one of hemorrhage in a bleeder which ended fatally in four days, hemorrhage coming on again and again after all treatment, including curetting. An interesting and practical discussion followed, participated in by all present.

The following officers were elected for the ensuing year: President, Dr. W. W. Bruce; vice-president, Dr. R. H. Bradley; secretary-treasurer, Dr. L. J. Weir; delegate to State Society, Dr. Joseph Hall; Program Committee, Drs. L. A. Burnside, R. A. Mitchell, L. H. Johnson; Committee on Necrology, Drs. G. W. Prewett, E. M. Duncan, R. H. Bradley. Dr. J. Y. McCullough of Casey was received into the society by letter from the Jasper County Medical Society.

L. J. WEIR, Secretary.

COLES COUNTY.

The Coles County Medical Society met in the Public Library, Mattoon, Tuesday, April 7, 7:30 p. m. The following program was carried out: Fractures and Dislocations, Dr. Chas. B. Fry; Diagnosis and Treatment of Typhoid Fever, Dr. F. E. Beck; Diagnosis and Treatment of Pneumonia, Dr. Ed Summers; Endocarditis, Dr. Zepin; Ethical Side of the Medical Profession, Dr. J. T. Montgomery. The papers were all discussed fully and proved of great interest.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Regular Meeting Feb. 5, 1908.

A regular meeting was held Feb. 5, 1908, with the president, Dr. Henry B. Favill, in the chair. Dr. Henry Gradle read a paper entitled, "Some Mistakes in Refractive Work." This paper was discussed by Dr. Derdiger. Dr. Charles J. Whalen read a paper entitled, "Inflammatory Conditions Within the Abdomen and Thorax Differentiated from Appendicitis."* Discussed by Drs. Albert Goldspohn, William Cuthbertson, Frank S. Johnson, C. W. Barrett, A. Belcham Keyes, Richard M. Fletcher, and a member whose name could not be ascertained. Dr. A. P. Heineck read a paper on "Accidental Perforations of the Uterus from Within." Discussed by Drs. Wm. Hessert, Victor J. Baccus, C. W. Barrett, O. M. Steffenson, A. Belcham Keyes, Albert Goldspohn, Wm. Cuthbertson, and in closing, by the essayist.

DISCUSSION ON THE PAPER OF DR. GRADLE.

Dr. A. L. Derdiger:—I want to congratulate Dr. Gradle upon his splendid thesis on this subject. Some new questions have arisen as regards the relief of functional nervous symptoms as the direct result from the wearing of glasses in correcting errors of refraction. I have found, after studying this subject considerably, and after having had the opportunity to refract a good many cases in the past eighteen years, that while it is true, as Dr. Gradle has stated, in some instances the patients can dispense with glasses, after they have observed the rules of hygiene, and their anemia has been cured, etc.; yet I find there are many, many cases that, after they have dispensed with the glasses, and especially if there is an error of refraction, such as hyperopia and astigmatism of more than one-quarter to one-half diopter, they will sooner or later return to their glasses and experience considerable relief by wearing them.

The next point I wish to call attention to is this, that in cases of asthenopia, where we find that the symptoms are rather complicated and we have not a clear understanding of the case, that is, we do not know whether the asthenopia is due to eyestrain, to an error of refraction, or to some other condition or organic disease, it is not advisable to at once prescribe glasses, but to watch such cases for weeks. I have had some of my cases under observation as long as three months, under medical treatment by their family physician, before I would prescribe glasses, because those cases do not do well; by wearing glasses from the start the real condition is masked. They might wear the glasses for two or three days and then leave them off, complaining they can see just as well without them.

With reference to the question of mydriatics, I have found that while it is true, to a certain extent, as Dr. Gradle has pointed out, that most myopes can be refracted without a mydriatic, yet in a large number of them—almost 50 per cent., possibly more—the tests that were made under a mydriatic were different. The results were entirely different, and vision was better if a mydriatic was used. Let me illustrate those cases that have a great deal of close work to do. I have found patients who, after they had worn a minus lens of one to three diopters before a mydriatic was used, under a mydriatic (after complete cycloplegia they would accept a plus lense), which would indicate they were myopic before the mydriasis and hyperopic after complete cycloplegia, so that I think it is import-

* For text of paper see page 543.

ant that we should always bear in mind myopia due to ciliary strain (false myopia). While it seems easy to fit glasses to a myopic case, still I consider that of greater importance that the hyperope who invariably accepts a plus lens to begin with, but can change the hyperopia to myopia by prolonged straining.

To illustrate, I will call the attention of the members of the society to some cases that have been refracted without a mydriatic, and some under a mydriatic, showing the difference as briefly as possible.

CASE 1.—Mrs. J. A., editor. Age. 28. Old glasses were: R. E.: $-1.00 + 1$ cyl. ax. 90 V. = 20/50. L. E.: $-1.00 + .75$ cyl. ax. 90 = 20/50. Under cycloplegia (atropin). Tests showed and glasses were fitted, to be worn constantly. R. E.: $2.50 + 4.00$ cyl. ax. 105 V. = 20/20. L. E.: $2.00 + 2.75$ cyl. ax. 90 V. = 20/50. Improved, 50 per cent. V. over old glasses. Headache entirely relieved. Glasses worn with considerable degree of comfort.

CASE 2.—Dr. C. L., aged 65; professor in college. Old glasses were: For distance, R. E.: -50 sph. V. = 20/40. L. E.: -75 sph. = 20/40. Reading, $+3.50$ spheres. Spheres in both eyes. Objective and subjective. Tests showed: Distance, R. E.: -50 cyl. ax. 135 V. = 20/20. Distance, L. E.: -1.00 cyl. ax. 45 = 20/20. Ordered reading glasses: R. E.: $+3.50 + 50$ cyl. ax. 45. L. E.: $+3.00 + 1.00$ cyl. ax. 135. Could read Jaeger No. 60 print. No mydriatic used on account of old age. Glasses felt comfortable for far and near point.

CASE 3.—Miss E. C., aged 42; music teacher. Old glasses, both eyes were: -75 sph. Objective tests: V. = 20/40 with and without glasses. Accepted O. D. $-75 - 50$ cyl. ax. 180 V. = 20/30. O. D. $-50 - 1.00$ cyl. ax. 180 V. = 20/30. Homatropin four instillations. Tests showed by the objective and subjective methods: R. V. = 20/60 -1.00 cyl. ax. 105. V. = 20/20. O. D. = 20/70 -1.25 cyl. ax. 75. V. = 20/20. V. in both eyes, 20/20. Patient wore these glasses for near and distance at first with difficulty, later with comfort and relief from dizziness.

CASE 4.—Dr. H. R., aged 44. With old glasses for distance: R. E., -50 ; L. E. -50 . V. = 20/35. Reading glasses, both eyes, $+50$. Felt nauseated after reading fifteen minutes? Objective and subjective tests demonstrated before and during complete cycloplegia this condition. R. E.: $+50 + 50$ cyl. ax. 135 V. = 20/20. L. E.: $+50 + 50$ cyl. ax. 45 V. = 20/20. These were ordered for distance and $+50$ was added for reading. They were R. $+1.00 + 50$ ax. 135. L. $+1.00 + 50$ ax. 45. Could read without feeling nauseated.

CASE 5.—Dr. W. F., aged 30. V. with old glasses, $-1.00 = 20/20$; without glasses, 20/40. Tests without mydriatic: O. D. V. = 20/40 $-50 - 50$ cyl. ax. 180. V. = 20/20. O. S. V. = 20/40 $-50 - 25$ cyl. ax. 180 V. = 20/20. Under homatropin. Objective and subjective tests showed: O. D. -1.00 cyl. ax. 165 V. = 20/20. O. S. -1.00 cyl. ax. 170 V. = 20/20. Under atropin sulphate three days, both eyes: Both eyes V. = 20/60; objective and subjective tests showed O. D. $+1.00$ cyl. ax. 75 V. = 20/20. O. S. $+1.00$ cyl. ax. 105 V. = 20/20. The last correction being worn with ease for all close work. Vision slightly blurred for distance at first, cleared later.

CASE 6.—W. E. H., aged 42. Complained of nervousness and irritability which had dated back to college days, twenty years ago, and persisted until the time of the examination of the eyes in April, 1907. Before mydriatic: R. E. V. = 20/15. L. E. V. = 20/15. Neither $+ .25$ nor $- .25$ lenses improved the vision. Vision was above normal without glasses. The muscle tests showed 4 of right hyperopia with 14 of esophoria. Atropin sulphate was used for three days, the objective and subjective tests showing: O. D. V. = 20/40. O. S. V. = 20/60. O. D. $+75$ V. = 20/20. O. S. $+50 + 50$ ax. 165 V. = 20/20. Full correction was ordered for constant use. Distant vision being somewhat blurred. Close work was much easier. May, 1907, one month later, the 4° of right hyperphoria was corrected by an operation (tenotomy on right eye) and the lens of the right eye changed to 75 $+ 50$ ax. 165 V. 20/20. The esophoria subsided; the patient has been entirely relieved from nervous symptoms ever since. He is at present doing a great deal of reading preparing for a civil service examination, experiencing very little fatigue.

DISCUSSION ON THE PAPER OF DR. WHALEN.

Dr. Albert Goldspohn:—In view of the great popularity of the diagnosis of appendicitis, and likewise the rather ready operation, the theme of this paper is very much in order. We can be grateful that it has become a success to educate the laity on the subject of appendicitis, and we hope they will become educated similarly in regard to the pathology of other intraabdominal lesions. But there is danger of our making a mistake in the diagnosis of appendicitis, as has been pointed out by the essayist. There are many reasons why this subject is difficult. The anatomy explains that. The sympathetic system of nerves is such that any irritation that is created on any peritoneal part is communicated more or less directly and chiefly to the solar plexus; and it may be reflected from there to different channels, so that appendicitis will sometimes cause a pain in the left side, and we have epigastric tenderness, or some tenderness in the neighborhood of the umbilicus quite generally in appendicitis, as we have with very many other intraabdominal and pelvic lesions. Then it is stated, I think by good authority, that the sympathetic nerves, so far as they apply to the gall-bladder, communicate with the eleventh and twelfth intercostal nerves of the right side, which communicate more or less directly with the spinal nerves in the region of the appendix, that is, in the parietal abdominal wall, so that in that way we can see a good reason why nearly all of the most celebrated and experienced surgeons have met this difficulty of not being certain, exceptionally whether they had a disease of the gall-bladder or a diseased appendix to deal with. I have been in that position myself.

I have had during the last year two cases brought to me at night, as emergency cases of appendicitis, to be operated on at once. The attending physician had made a diagnosis of rupture of the appendix. They were septic cases of gall-bladder trouble, cholecystitis, with pericystitis, and pus in one instance.

In regard to the mistake that is most frequently made, and that is of perhaps the greatest practical bearing, namely, the differentiation between disease of the right tube or ovary in a woman and appendicitis. I fear very much that a good many young females, who have never been digitally examined, and where there is naturally some hesitation on the part of the physician in insisting on a vaginal examination, are cut for appendicitis who really have no appendicitis. They have simply salpingitis or ovaritis of the right side, and should not be operated on at all at that time. The reason why this distinction in diagnosis between salpingitis or ovaritis on the right side from appendicitis is so important is this: If it is from a genital source; if it is an infection which proceeds from the uterus, then this patient should not be operated on in the acute condition. She should be treated medically. Nature will overcome very much of this trouble, and later it will appear whether an operation is needed or not, and if it is needed, very much less of an operation will be required. Nature will have shown what she can cure, and it will be clear to the operator what remains for him to attend to that Nature has not accomplished. If the surgeon operates in the acute condition when everything is inflamed, when everything is angry, he must remove one thing as well as another, and the result is excessive operating. But if it is appendix trouble, I think we are all united in the belief that the sooner a positive diagnosis is made, and the sooner an operation is performed, the better. Briefly, this distinction in diagnosis is of exceeding importance, and I will say that, as a rule, it can be made, unless the appendix hangs into the small pelvis; then it may not be possible for any one to make the differentiation. But in behalf of women, I want to say that appendicitis in the female belongs properly to those men who have schooled their fingers to bimanual touch, and are most likely to make this diagnosis correctly.

Dr. William Cuthbertson:—There is one phase of this subject which the essayist did not mention—a condition which may be mistaken for acute appendicitis, namely, a prolapse of the right kidney where infection has taken place. In cases of this kind, we may have all the symptoms which simulate an acute appendicitis,

with infection, such as elevation of temperature, tenderness on pressure, etc. The only way to make a differential diagnosis in such cases is to use the cystoscope.

Dr. Frank S. Johnson:—The speaker's paper has very thoroughly and interestingly set forth the causes of pain that may be mistaken for appendicitis. We also in turn find appendicitis simulating almost every condition causing abdominal pain. Epigastric pain due to this cause is quite common. It is sometimes quite misleading. It may be so severe as to strongly suggest renal colic or even perforation of a gastric ulcer. A case I have in mind will illustrate this: It was a case of chronic appendicitis which had suffered many recurrences; there was a well defined mass in the ileocecal region which was the seat of an abscess. The attack of pain came in the course of a recurrence and at a time when the acute symptoms were subsiding. The pain came suddenly, was excruciating, and was associated with vomiting which persisted for several days. There was also a marked degree of collapse. The location of the pain was in the epigastrium, which was also the seat of greatest tenderness. In the days that followed the stomach was intolerant and the skin became noticeably jaundiced. Some pus and blood was found in the alvine evacuations following the pain. The patient recovered and all symptoms of appendiceal trouble disappeared. In this case the pain and other acute symptoms were almost wholly confined to the epigastric region, whereas the primary pathological cause was located about the cecum, and the actual occurrence was the rupture of an appendiceal abscess into the colon.

Appendicitis may also be a complicating element in chronic peritonitis, whether from constriction and stenosis, or from direct pathological involvement, as is sometimes the case in tuberculous peritonitis. Indeed, quite an extensive brief could be presented for each horn of the dilemma so often presented to the practitioner by abdominal pain.

Dr. Channing W. Barrett:—The success of appendiceal surgery has only reached its height when every case of appendicitis can be diagnosed early enough that the appendix may be removed while its removal is still safe. Further, when the differential diagnosis can be made so accurately that appendicitis can be excluded where it does not exist. This being true, the paper is timely.

One of the conditions upon which the essayist laid some stress and which would seem the least liable to be confused with appendicitis is pneumonia. I wish to verify and emphasize this by the brief citation of a case. A boy, 6 years of age, who had had a cough for some time was seized with pain in the abdomen, which was accompanied by vomiting, rise of temperature and increased rapidity of the heart's action. The pain was most marked over the appendiceal region and the right rectus offered resistance. The chest findings indicated bronchitis. A diagnosis of appendicitis was made and the consultant confirmed this. The parents consented to the patient being taken to the hospital, where a second consultant, a prominent surgeon, saw the case. It was agreed that the boy was suffering from appendicitis, but the consulting surgeon urged the greater necessity of an early operation because he considered the appendix ruptured and the abdomen full of pus. A median incision was advised on this account. The operation revealed not only the absence of rupture and pus in the abdomen, but the absence of any acute inflammation. Two days later the boy showed well-marked symptoms of pneumonia; this may have been due to the anesthesia in part, but I have never been able to satisfy myself that the symptoms of appendicitis were not entirely due to an incipient pneumonia. The child made a good recovery from both the pneumonia and the operation. Incidentally it may be said that this was an instance in which we received credit where credit was not greatly merited.

Much may be said about the differential diagnosis between appendicitis and other abdominal conditions. Most of us present no doubt feel that we can make a diagnosis of appendicitis, but there is one point in making an abdominal examination which I wish to emphasize by again relating a case. Dr. —, a dentist, consulted me a few days since for what had been to him and several

home physicians an obscure abdominal trouble extending over many months, but has grown worse during the last four weeks. Pain had been general at times, but often localized in the right, lower quadrant of the abdomen. He was asked to strip the abdomen and to lie upon the examining table. A comparison of the two sides showed marked tenderness in the right, but none in the left side. Comparison of the different regions on the right side showed a marked tenderness confined to an area the size of a dollar around McBurney's point. A diagnosis of appendicitis was unhesitatingly made, upon which he remarked: "Well, that is odd. I have been to see a number of our physicians and not one of them has examined me in any other than the standing position, with my clothes on." In view of this and as long as this continues, we cannot boast that the medical profession has learned to make a diagnosis of appendicitis or any other abdominal condition. A mass in this region, board-line abdominal wall, obstruction of the bowel, rapid pulse and temperature should not be waited for to determine the diagnosis. Pain in the abdomen, vomiting, tenderness more marked over the appendix determined by actual palpation, with the patient in the dorsal position, recognizes appendicitis early. Examination in the sitting position with the patient dressed would not discover an appendicitis until conditions were so bad that the patient could not stand.

Dr. A. Belcham Keyes:—I have had the good fortune to see cases of pneumonia in children that gave the pain in the typical appendix region; probably altogether, four or five such cases. In every case I naturally at first thought the appendix was diseased. This point in diagnosis was discussed many years ago in connection with the typical symptoms of appendicitis.

The pain of appendicitis, as the essayist and other speakers have remarked, is often referred in the early stages of the disease to the epigastrium. I would like to ask whether that pain in the epigastrium is an appendiceal pain or is it the pain from the early disturbance of the stomach itself, from the lack of care in the diet, or in the drinking of large quantities of fluid that frequently precedes the appendicitis. Undoubtedly, when the appendix is affected we get epigastric pain, also because of the pain being referred to the terminal filaments of the nerves, just as pain, for instance, in the hip joint disease is referred to the terminal filaments of the same nerve at the knee joint. I recall another very interesting case that came under my observation a short time ago.

I was called to see a patient who was suffering undoubtedly from appendicitis. The diagnosis proved correct at the operation. The temperature fell to normal; but three days later the patient developed pneumonia. The pneumonia germs may have been there and probably were at the time of the operation, but any one seeing this case three days after operation might have thought that the primary symptoms were from a pneumonia had they no hospital record to judge by.

Now as to the tube and ovary in reference to appendicitis, there is a direct connection between the tube and ovary and appendix through a little fold of peritoneum called Clado's ligament, which immediately connects these organs. A tubal infection very frequently implicates the appendix later as a peri-appendicitis. I see that condition frequently; also it is not an uncommon thing to find the appendix attached to the ovary or tube by adhesions. This secondary or peri-appendiceal infection may give us the symptoms of appendicitis, though the appendix may be in no way affected beyond the peritoneal coat. Very frequently, when the specimen has been handed around and handled a good deal, we find nothing left on the appendix of a pathological nature. The handling or sponging has removed the pseudo-membranes by the time the operation is finished and one is ready to examine it critically, but when we open the abdomen it is covered with a purulent pseudo-membrane.

In all right-sided inflammations we should think of the kidney, of the appendix and gall bladder, and in cases of females we should think of the uterine appendages. The appendix to a physician who is not doing a large amount of operative work may, though diseased, appear healthy. In looking on at operations I have seen the vermiform appendix removed time and again that appeared to me healthy, but after the appendix was opened carefully it was seen

to be affected at the tip and sections made in the laboratory showed marked small cell infiltration of mucosa, muscularis and peritoneum, giving full justification for its removal which the cessation of the unpleasant symptoms confirmed.

Dr. Richard M. Fletcher:—This is a very interesting subject, and I would like to speak of one or two points. Notwithstanding all that has been said with regard to appendiceal inflammation, the diagnosis of appendicitis is not easy to make, either by the physician or surgeon. I think we all find difficulty in making the diagnosis at times, and should be willing to admit that normal appendices have been removed by mistake. For one, I am willing to admit that; but, at the same time, while every pain in the right side does not mean an abdominal section, yet such sections have saved more lives than the non-performance of them. There are conditions within the abdomen which oftentimes puzzle us and mislead us, and lead us to resort to operative procedures which later we may regret having done. In this connection I want to cite a case that came into my service recently.

A woman was taken ill in one of our theaters on the stage not long since. A physician was called, who happened to be a personal friend of mine, and from the condition he saw he made a diagnosis of acute appendicitis, and thought probably an operation that night was the best thing to do. She was sent to the hospital; I was called, and found the woman so intensely hysterical that it was impossible to make an examination or to tell anything about her real condition. She was informed that she had appendicitis in some indirect way, and in her estimation nothing would do but to undergo the operation. It was a fight to keep her off the table. That is the layman's idea of appendicitis. Somehow it has gotten into the public mind that it is fashionable to have this disease and it is necessary to be operated on. We have all seen more or less of this. It turned out to be a case of ovarian congestion. The woman left the hospital in thirty-six hours, and was able to go on the stage and perform the third night thereafter. I have seen several such cases. They are not suitable for the knife. So I say there are many cases that puzzle both physician and surgeon. It is very necessary to go over these cases carefully. Each case is a law unto itself. While my experience has not been extensive, yet I believe that laparotomies, when properly done, are not fatal, and we have a right to claim that when we are in doubt we should cut.

DISCUSSION ON THE PAPER OF DR. HEINECK.

Dr. William Hesser:—I am very glad that Dr. Heineck has gone to the trouble he has in collating so many of these cases, and that he has searched the literature for them diligently since I published my paper three years ago. Ever since that time I have been intensely interested in this subject, having it brought to my attention so forcibly at that time by a case which I then reported in detail and will mention now.

The perforation occurred in the hands of a competent confrère who had done a curettement post-abortum and evidently failed to make an accurate diagnosis as to the position. He perforated the anterior wall of the uterus with a pair of curved Goodell dilators, inserted the placental forceps, fished out something, and pulled out a few feet of intestine. The intestine was replaced. When I saw the case with him we decided on an immediate laparotomy, which, I agree with Dr. Heineck, is the only thing to do in such cases of perforation, because it is not so much the perforation of the uterus we want to take care of as it is to be certain as to the injury to the intestine and other viscera. In the case I reported three feet of intestine was severed from the mesentery as clean as could be. There was no hemorrhage. Four feet of the intestine required removal; the woman made an uneventful recovery and had a baby last year.

Attention should be called to the indiscriminate performance of curettements by physicians. The operation is considered by many as being so trivial that any one can do it, and almost every one does it, and it is done without the operator having a proper conception as to the pathology in the pelvis, and, above all things, an indefinite idea as to the direction of the uterine canal. That is one

of the potent factors in causing these perforations of the uterus, although there are other local conditions which are at fault. These uteri in the vast majority of cases are perforated post-abortion or post-partum. They are cases in which the uterus is soft, friable, the seat of fatty degeneration, atrophy, and hyaline degeneration. In fact, some of these uteri have been found to be so friable that a sound will simply fall through them, and in cases of that kind absolutely no blame attaches to the operator. There are some general constitutional diseases which predispose to local disease of the uterus; but usually we have to deal with a uterus that is the seat of some infection post-abortion.

A very important and material question arises, namely, whether an operator can be blamed for perforating the uterus. It is sometimes unpreventable. The most expert operators have not hesitated to report their cases of perforation of the uterus. Howard Kelly and others of his prominence have perforated uteri. They have recognized the accident at the time, and have instituted proper measures of treatment, and so we should be charitable in not condemning every one unqualifiedly who perforates the uterus. These uteri, as I have indicated, may be so soft that we can not help perforating them either with a sound or curette, but the operator, of course, must be on the alert. In my judgment, the blame attaches in cases where a firm uterus is perforated forcibly by manual force, forcing dilators through, or forcing a curette through. When a man, after perforating the uterus, pulls down things through the hole, injuring the gut, pulling down the omentum, etc., he is not entirely free from adverse criticism. But the sweeping statement can not be made that whoever perforates a uterus has committed a fault in technique. In cases of carcinoma the most expert operators have gone through the uterus. I am speaking now of perforations occurring in the hands of medical men and not of midwives.

How can these uterine perforations be prevented? In some cases they can not be. Every man should bear in mind when he does a curettement the possibility of perforation. No curettement should be done without the operator having that in mind all the time. But above all things, every one who essays to do a curettement should have a distinct picture of the pathology of that pelvis. They should have a picture as to the shape, size, consistency, direction of the uterine canal, condition of the tubes and ovaries, the presence or absence of abscesses, and the like. But I think the main thing is the consistency of the uterus and the direction of the uterine canal, so that by having them in mind one can ordinarily curette a comparatively soft uterus without perforating it, provided he knows the direction or position of the fundus, whether anterior or posterior.

There is one point I have been wanting Dr. Heineck to mention, and that was the danger of injecting irritating fluids. Many of the deaths reported in the literature have been caused by injections of tincture of iodine or sublimate; especially, following the swabbing out or the injection into the uterus of these irritating fluids after curettement. This should not be done. One can not always be sure that the uterus has not been perforated, and to inject sublimate, iodine, and substances of that kind enhances the danger. A douche point has been shoved through the uterus and considerable bichlorid run into the belly and the women have usually died. We learn from these cases of perforation that we ought not to take the risk of injecting these strong irritating fluids.

In regard to the treatment of a perforation that has been made with a uterine sound, under ordinary conditions, where the woman is in good shape, without much pelvic inflammation or metritis, and it is expected that the hole in the uterus is small and has not injured the intestine, I believe one is safe in treating such a case expectantly. Where the uterus has been perforated to a greater extent, as, for instance, by a curette, and there is possibly intraabdominal injury, in a case of that kind I think the best plan is to open up above, and, above all things, where the perforations are likely to be infected with the dilators, or in cases in which there is prolapse of any intraabdominal organ, omentum or bowel, these cases demand immediate operation, and the operation should always be a laparotomy because the suturing of a tear in the uterus is a

minor consideration. Usually these women die from abdominal injuries and infection rather than from the mere perforation of the uterus.

Dr. Victor Baccus:—The subject discussed this evening is a timely one, and I am sure every member present this evening will join me in thanking Dr. Hein-
eck for his interesting presentation of the subject.

I wish to call your attention to some of the circumstances associated with perforation of the uterus which play a prominent part in determining the methods of treatment to be adopted. We can not generalize in discussing its treatment as each case is a case unto itself.

First, accidental perforation of the uterus by experienced operators while performing an exploration of the uterine cavity, during a curettement, and these operations are performed in a hospital under the most favorable aseptic condition, is not necessarily a serious accident, for the operator is the master of the situation and he is in a position to institute at once the appropriate treatment demanded by the accidental perforation.

During my assistantship to one of our leading gynecologists, I have witnessed this accident three times and the perforation did absolutely no harm to the patients, it did not even complicate the postoperative convalescence.

CASE 1, German Hospital.—Mrs. A. P., laparotomy for bilateral ovarian cysts, preceded by a dilatation and curettement of the uterus. While determining the uterine cavity by means of a uterine probe, using the extreme care, it suddenly disappeared in the abdominal cavity. The operator recognized the accident at once, removed the probe, curetted the uterus. The laparotomy disclosed a small hemorrhagic point on the posterior surface of the uterus .1 cm. from the left cornua.

CASE 2, Policlinic Hospital.—Mrs. H. T., aged 55 years. Abdominal uterine fixation for prolapsus uteri. The laparotomy was preceded by a curettement and the perforation occurred as in the first case.

CASE 3.—Mrs. J. B., aged 63 years. Vaginal hysterectomy for adeno-carcinoma of fundus uteri, preceded by exploration of the uterine cavity with a probe, during which maneuver the perforation occurred. In these three cases the subsequent operation revealed that no hemorrhage had taken place in the abdominal cavity, and the perforation, *per se*, a perfectly harmless accident.

The perforation of the uterus which is always a serious accident and frequently fatal, is the perforation occurring during a curettement for an incomplete abortion; this operation being usually performed at the house of the patient by an untrained operator and under difficult surroundings, before the perforation is recognized, damage to other viscera is done, such as perforation of the intestines, which in itself is enough to kill the patient.

By far the greatest percentage of fatal cases of perforation of the uterus are caused by abortionists or the patients themselves. These patients die for the following reasons: First, the perforation is not recognized till long after it has occurred. Second, the uterus and peritoneal cavity are invariably infected. The treatment of this class of perforation is so important and varies so much that it is impossible to discuss it in this short allowance of time. I will end with saying that a laparotomy with repair of the perforation, vaginal and abdominal drainage under gas and anesthesia, will give the greatest percentage of recoveries.

Channing W. Barrett:—I wish to thank the society and the essayist for an opportunity of discussing a paper of such magnitude as that which has been brought before us. The paper is to be commended not so much because of the new things it brought forward, but because of the interesting literature it has brought together; that makes one of the indications for a paper.

There are some points in the paper and in the discussion with which I disagree. There are many points with which I agree. One point with which I disagree is that an ovum forceps should never be used in the uterus. Some have said the curette is the instrument to use. There is an organ more important than either of these and that is the trained brain. There should always be the presence of the trained brain when a curettage is to be performed, and to help out that brain is the trained finger. The curette should be used by the trained hand, and in the

trained hand the ovum forceps is of greater value than the curette or sound. The necessity of the forceps is shown by the number of placental forceps that are in use, and, when rightly used, there is no more valuable instrument in the armamentarium of any gynecologist than the properly constructed uterine forceps.

The finger can not always be introduced into the uterus and at other times, it may be introduced to palpate pieces of ovum, portions of placenta, portions of membrane, but it entirely fills the cervix and is therefore useful for detecting but not for removing foreign material. The curette alone is not an instrument with which to clean out an incomplete abortion. This is illustrated very well by the statement of a doctor of one of our post-graduate medical schools who said to me: "Before I came up here I curetted a woman for incomplete abortion and I thought I had removed everything from the uterus, but three days later she passed a fetus." As a matter of fact in a uterus of three months, where the ovum is broken up and a curette is used for getting that material out, when you have gotten out all that the curette seems to find, you may consider that a large portion of the material remains behind. The ovum forceps will often bring out the ovum in its entirety and will get masses that the curette will miss, if it is broken up. The finger is an important instrument, but it can not well displace the forceps.

With regard to the use of tents, which have been spoken of somewhat favorably in one sense and are recommended for the purpose of dilating the cervix, I would say a few years ago the question came up in the query column of one of our prominent journals and the question was kindly referred to me for an answer. To my mind there was no indication for the use of these tents, but I thought I would like to know to what extent physicians were using them. I inquired at one of the instrument houses and they said they hardly knew what it was to sell sponge or tupelo tents to physicians. At another house they said they sold these tents by the hundreds to midwives. Another house, doing a large country trade, said they sold country physicians tupelo and sponge tents occasionally. They are really not gynecological instruments. The statement was made that if we use tupelo or sponge tents, we should have them of the same length as the depth of the uterine cavity and yet we are told by the essayist that there is such a thing as sudden dilatation due to irritation; that the uterus may be considered of a certain size and then suddenly it enlarges; that being the case is there not an element of danger along this line? The difficulty of sterilization and the insinuation of the meshes of the tent into the cervical tissue make it a dangerous instrument.

My personal experience with perforation of the uterus has been limited to three cases, and another, which might be considered a false perforation, and which is more interesting than any of the true perforations. I will mention them briefly. The first was in a degeneration of the uterus in a woman, 65 years of age, who had a large calcareous fibroid. She had severe hemorrhages which she thought were from the bowel. I wished to determine the source and introduced a sound into the uterus before opening the abdomen. The sound continued to pass upwards without the least resistance from the uterine wall. An abdominal hysterectomy was performed for the fibroid and the wall of the uterus was found to be almost like wet, brown paper and contained in the fundus a small, perforating wound. Orthman calls attention to perforations of the uterus and says that the uterine wall in some cases was like butter. Glaeser reports a case in which he says the uterine wall was of the consistence of goose lard. These softened conditions play an important part in perforations of the uterus.

Another case, that of a woman who had been operated upon in the effort to produce an abortion, but in which there was probably no pregnancy at all, there being present numerous sloughing fibroids of the uterus. I saw her in consultation in the last stages of sepsis and peritonitis. She was removed to the hospital. In undertaking to irrigate the uterus the uterine irrigator passed through a large opening in the fundus of the uterus, which opening undoubtedly accounted for her general peritoneal infection. On account of the presence of the

rupture irrigation was not used and the patient died after being in the hospital a short time.

The next case of perforation of the uterus occurred in the hands of one of the best gynecologists in the city. While curetting the uterus he was addressing the students and saying that there was no great danger, in careful hands, of perforating the uterus, and with care no accident should occur, but, all at once, the curette went in further than he intended and perforation was suspected. Upon opening the abdomen a small amount of blood was found and also a perforating wound in the uterus. Dr. C. N. Ballard reported to me the case of a woman, 75 years of age, in which the curette went through the side of the uterus. A very vascular condition was found in that area. Hysterectomy was performed and a carcinoma was found higher up in the uterus. This case Dr. Ballard will report in detail later. The case of pseudo-perforation, of which I spoke, was one that I reported at the last meeting of the Chicago Gynecological Society. Briefly it was this: A case was referred to my service in the Cook County Hospital from the obstetrical ward with this history. The woman had been confined three days before. She had a retained placenta which in attempting to remove, the interne found very adherent, but he loosened it up to some extent and lacerated it, and finding it difficult to remove manually, he desisted. After some time the placenta was expelled, but, being ragged, he was not sure whether it was entirely removed. The woman went on fairly well for two days, but always had more pain in the abdomen than a patient should. At the end of the third day the interne called the attending man, Dr. Roehler, but, failing to get him, referred the patient to the surgical obstetrical service and called me, saying that he considered the case one of rupture of the uterus and prolapse of the bowel appearing at the vulva. We had the patient prepared for operation. The vagina was scrubbed. In the presence of Drs. Roehler, Bushnell, Stowe and others I examined and agreed with the interne that it was the intestine which was showing at the outlet, which could be traced up to the uterus, but I did not wish to rupture it or pull it down further. The abdomen was opened and we expected to find a rupture in the uterus with the bowel pressing through. The surface of the uterus was found perfectly smooth. We found the bowel adherent to the left tube of the ovary and these latter organs inflamed. We dissected the bowel loose from the broad ligament, thinking we would find it going into the uterus, but we failed to do so. The patient was a fleshy woman, therefore the abdominal contents were difficult to get at. The laparotomy sponges were removed, the small intestine brought up, and it was black as one might expect, provided strangulation of the bowel had occurred. I thought that somewhere we would find the bowel running into the uterus. I traced the small bowel one way and found it getting a little better till I finally came to the cecum. I then traced it the other way and found it getting blacker; it ran away from the uterus instead of toward it and ended at the duodenum, where it was very tender and partially gangrenous. In trying to remove some of the adhesions around it the bowel was loosened up from the mesentery. The whole small bowel was practically in a condition which would have called for resection if only a small portion had been affected. The upper eighteen inches were practically dead. That part was resected and the better portion, while very dark, was implanted into the stomach. We expected that the woman would die immediately, but she rallied, dying the next day, apparently from embolism of the lung. She did very well up to thirty minutes preceding her death, when she became blue, had difficulty of respiration and expired. A postmortem examination was obtained only to the extent of opening the abdomen for the Murphy button and the bowels appeared still blacker than when the wound was closed. While working in the abdomen and not finding the black bowel running into the uterus, Dr. Roehler was asked to explore the vagina and the uterus to determine the source of the sac presenting at the vulva. He found it adherent to the uterine wall with a portion of membrane, producing a pedunculated cyst containing blood and gas and simulating the bowel. Undoubtedly a thrombosis of the superior mesenteric vein resulting from the infected retained membranes

caused the bowel condition, which very closely simulated rupture of the uterus with prolapse and incarceration of the bowel.

Dr. O. M. Steffenson:—I feel very much indebted to the writer of the paper for the completeness and energy he has put on it, and there is only one point I **can think of to discuss**, and that is the necessity for immediate laparotomy after perforation of the uterus. Since we have a great many cases in which the abdominal cavity has been entered for the purpose of tapping in ascites and for diagnostic purposes in some cases of tubercular peritonitis, where a sharp pointed stilet has been pushed into the peritoneal cavity without injuring the intestine, it seems to me rather unlikely that a curette, a dilator, or sound, providing we have no previous inflammatory condition in the cavity, would cause any injury to the intestine or adjoining organs to necessitate immediate laparotomy.

As far as the introduction of infection is concerned, it certainly would not necessitate an immediate laparotomy, because we have no way of determining whether we are going to have absorption of infective material, or a localizing or general peritonitis. So the question of immediate laparotomy hinges entirely on injury to organs, such as the bladder or the intestine, and that seems to take place in those cases we find in the literature, with few exceptions, in which there has been a previous inflammation in the abdominal cavity. In examining a case, if we can not find a perforation of the uterus, if we can not find any evidence of inflammation or adhesion of the intestine to the uterus or fixation of the uterus, or any other indication which will lead one to believe that there is fixation of the organ, I think we may leave such a case alone and wait. Where we find adhesions, fixed tubes and intestines in the pelvis, then of course immediate laparotomy would be indicated, regardless of the character of the instrument used.

The German writers in the *Centralblatt fuer Gynekologie* speak of the fenestrated curette as being a more dangerous instrument. This instrument is apt to catch the wall of the uterus or the intestine and to tear a hole in the uterus which a smooth instrument would not do. In the case that has been mentioned the instrument that was used was a small one, and the laparotomy showed a red scar upon the uterus, a far better union than could have been obtained by suture, and afterwards there was no peritoneal reaction, so that a smooth instrument, in the absence of inflammatory conditions in the pelvis or in the abdomen, would surely be less liable to do harm than the introduction of the fenestrated curette or any type of curette which would make a ragged or jagged surface or hole passing backwards in the uterus, than one which would not do this.

Dr. A. Belcham Keyes:—I feel that this subject is one of very great importance. Dr. Barrett is right when he says that you can not always introduce the finger into the early aborting uterus. The late Dr. Henrotin could often introduce his little finger into the uterus in a deft manner when others who tried could not do so. It requires considerable skill and perseverance to do this. I have succeeded again and again, when I thought it was impossible to do so. I pointed this out some time ago in a paper which was published in the *Journal of Obstetrics*.

The placental forceps is one of the greatest instruments that was ever invented. The curette, as was pointed out years ago, is only a teaser of the retained secundines of abortion. It teases the ovum and placenta but will not remove it.

Recently at the Chicago Policlinic I saw a woman who had been thoroughly curetted following a criminal abortion. I later saw the autopsy in this case. The after-birth was still intact and attached to the wall of the uterus as naturally as could be. Not one particle, apparently, of the after-birth had been removed.

In another case that came under my observation the ovum itself was not removed with the curette.

I wish to mention the tampon in cases where we are not certain that we have removed all of the secundines. The introduction of the tampon as used and recommended by Duehrssen, is a very good procedure, frequently after ineffectually using the finger and forceps to remove all the secundines you will have remnants come away with the tampon.

I want to state that I have perforated the uterus probably more than once. I did so in one case before at least 100 men. I was as gentle as possible in passing the sound. I first diagnose bimanually the position of the uterus, its size, its flexion or version. Then I pass the sound. In this case mentioned it was held lightly between the thumb and finger, and introduced most carefully. The sound passed inwards without encountering the slightest resistance. It went immediately through the uterine wall. It was not the infiltrated uterine wall of a post-abortion case. The sound disappeared up to the handle. Besides the true perforation we must think of the so-called false perforation or acute dilatation of the uterus which probably never occurs, but rather the tube may be held up by adhesions or tilted in such a way as to allow the passage of a sound into it. These are rare cases. I am rather inclined to doubt that unless a man has opened the abdomen to see whether the sound has passed into the tube that he can not tell if this has occurred or not. The perforation of the uterus by the sound in my case was not followed by any trouble, for, as I had intended to open the abdomen, all preparations had been made and I did so at once and found the uterine wall was very thin. Extreme friability should be borne in mind, especially in cases of acquired antelexion. We could not find the perforation for the reason that the hole was so small. The perforation may be into the parametrium only and not perforate through the peritoneum, in which case it may be impossible to find it, or its site be marked by a subserous hematoma.

Dr. Albert Goldspohn:—I have also perforated the uterus several times, but fortunately always when I was in a condition to take care of any harm I may have done. It was usually done during a curettement preliminary to a laparotomy under the same anesthetic. There have been cases where the uterus was cheese-like in its consistency, owing to sepsis following labor. The septic puerperal uterus is not like a muscular organ, but more sometimes like cheese or butter. There is no particular harm done where the uterus is perforated in these cases, and it is because of this perhaps that I was a little more lacking in care in using a small Schroeder spoon curette.

This whole subject can be very much minimized; this accident can be very much reduced if we accept certain fundamental principles in regard to the technic, pathology and instruments. In the first place, the uterine exploratory sound ought not to be used, as a rule. I have not used the uterine exploratory sound once in sixty days, although I examine women nearly every day the year round. If there were no such thing, it would be a blessing to women, and to the physician, because the doctor would be compelled to do his duty, to learn to examine these women by bimanual palpation, and not be poking inside the uterus with a sound that is stiff. The only rational exploratory sound must be like a steel spring, and should be composed of a steel band like a watch spring, wound up in the shape and curve of a sound, tapering and bearing a bead at the end, but so flexible that it will flutter in the air when shaken. All the other merely malleable sounds are misleading, not to speak of the dangers of infection, etc., from their routine use.

In regard to dilatation of the cervical canal, we know that in the case of the ordinary non-puerperal uterus, we need divulsers to dilate the cervical canal; and if we have done our duty in examining these patients bimanually, before we attempt dilatation, so that we know in which direction the fundus stands, whether possibly retro- or ante- or lateroflexed, there will be no perforation of the uterus, unless the operator is unfit for this work. However, in regard to dilating the puerperal uterus, in cases of retained, placental remnants, etc., the divulsing dilator should be utterly abandoned. Only something of the round, wedgelike form, as the Hegar dilator, should be used, supplemented, if need be, by rectal dilators, acting in the same manner. Thus we can dilate the cervix of any puerperal or abortion uterus sufficiently to introduce the finger, in a short time; but it should not be done with a divulsing instrument which tears, cuts and perforates the thinned and succulent cervical tissues. The intelligent finger should then be used to find out whether and where remnants of secundines are located, and to detach them if possible, and then to remove them with an instrument if

necessary. Here the placental forceps is often needed; but it is not the only thing available. The instruments that should positively not be used at this juncture are the ordinary small gynecological curettes, nor the brutal augur-like implements whose construction and use suggests the mind of a carpenter but not of an intelligent physician and surgeon. I have deplored what in my estimation is a fundamental mistake, in teaching from bottom up, that not a sufficient difference is clearly insisted upon between curettage of the puerperal and that of an ordinary gynecological uterus, with a corresponding difference in the choice and form of instruments as well as the technic of their use. The ordinary, non-*puerperal*, gynecological curette is the most dangerous instrument when it is used in the *puerperal* uterus. It is a very foolish performance, not much better than going in with a button-hook. A wholly different proposition is the curettement of the *puerperal* uterus from that of a gynecological one, in view of the anatomy, the mechanical contour, the pathology, and the consistence of the parts. In the one case we attempt to remove the mucous membrane in order that a healthier membrane may grow in its place; in the other we do not attempt to remove any of the lining of the uterus, but remnants of a physiological growth from one spot or a limited area, of its interior extensive surface.

To supplement the finger, and placental forceps, for these cases I have devised my large loop curette with a canulated handle. The scraping edge of the loop corresponds to an oval ring measuring $\frac{7}{8}$ by 1 inch, while the other edge of the loop is an ovoid area of about a quarter of an inch less in dimension, thus producing a diverging or flaring scraping edge. A large loop like that is needed to be both innocent and effective. The handle is canulated so that a constant stream of sterile or antiseptic solution can be obtained, playing directly upon the surface scraped, so that by the mechanical effect of a current of water all detritus, which often is septic, will be instantly removed, and not permitted to be engrafted into the new *atria* that are being made.

Dr. William Cuthbertson:—I recall only one case of perforation of the uterus that has come under my observation. I was allowing an interne to do his first curettement; I furnished him a small dilator, then he resorted to the use of the large Goodell dilator, and not estimating his strength in separating the blades manually, the instrument split the uterus from the external os to the fundus laterally. I immediately recognized what he had done, curetted rapidly, packed the uterus with iodoform gauze, treated the case expectantly, and the woman made a good recovery without any untoward symptoms.

What Dr. Goldspohn said in regard to the use of the uterine sound is true. It is an instrument which very rarely requires to be used, and should never be used in a uterus whose walls have been weakened by sepsis. The placental forceps is of great advantage in post-abortion cases where the fetus has not been expelled. It is impossible to remove a fetus from some of these uteri without the use of this forceps.

The accident of perforating the uterine wall is one which should happen very rarely in the case of a trained operator. In examining the uterus at first, more especially if he introduces a uterine dilator, he can estimate at once the character of the musculature, and if it has been at all weakened or softened by sepsis the utmost care should be used in any manipulation to avoid such accidents as have been reported to-night.

Dr. Channing W. Barrett:—I want to establish the claim of priority in reporting a case of perforation of the uterus, because Dr. Keyes in his remarks said no one here had reported such a case. I reported the case of a fibroid of the uterus in an old woman, 65 years of age, in which the uterus was perforated. Another thing I wish to speak of is this, that some here wondered what was projecting from the vulva of that patient in whom there was a supposed perforation of the uterus. When I found that this black bowel did not lead into the uterus I had the Doctor who referred the case to my service examine the woman through the vagina, and we found a mass there still. I did not have the opportunity of having traction made upon it. It did not interfere with anything apparently in the abdomen. He traced it up, and it really was a portion of mem-

brane attached to the uterus, so that the sac which came down was filled with contents—gases, blood and serum, and appeared like a black bowel.

Dr. Heineck (closing the discussion):—I wish to emphasize what Dr. Hessert has said, namely, it is very essential that a proper examination be made, so as to determine the position of the uterus, and the absence or presence of disease of the adnexa or of the pelvis, because most of the perforations that occur take place in malposed uteri, and we know that the presence of pus complicates the prognosis a good deal.

In the operation of curettement and bringing the cervix to the vulvar outlet one is liable to break up adhesions and disseminate the pus. Dilatation of the cervix by laminaria or tupelo tents is not to be recommended. These tents are employed by some physicians, and that is why I mentioned them. There are some of us who may deny the existence of some things, but when the evidence is strikingly clear we must yield. When the evidence is so overwhelming and is presented by men whose integrity we can not impeach, we must acknowledge there is some truth in what they say. Perforations of the uterus have been reported by many men, and in about twelve cases, I think, the condition was verified by operation.

Regular Meeting, Feb. 12, 1908.

A regular meeting was held Feb. 12, 1908, with the President, Dr. Henry B. Favill, in the chair. Symposium on Arteriosclerosis. Papers were read as follows: 1, Experimental Work, by Dr. J. L. Miller; 2, General Etiology, by Dr. Alfred C. Croftan; 3, Cardiac and Renal Considerations, by Dr. Arthur R. Elliott; 4, Nervous System, by Dr. Hugh T. Patrick*; Ophthalmic Side, by Dr. George F. Suker; 6, General Symptomatology, by Dr. Robert H. Babcock; 7, Pathology, by Dr. Theo. Ticken (not read); 8, Treatment, by Dr. George W. Hall. The symposium was discussed by Drs. Joseph M. Patton, R. B. Preble, R. Ladova, and Julius Grinker.

DISCUSSION.

Dr. Joseph M. Patton:—A question which comes to us at once in the consideration of this subject is, What relation does the changes which we find in the arteries have to the etiology of the disease? The one strong fact which stands out in relation to the anatomic changes is that we have marked alterations in the media and the adventitia of the vessels, which apparently are primary in most of the cases; that the changes in the intima which lead to aneurysmal developments, to the so-called button formation, endarterial abscesses, etc., are secondary, and are the result of the failure of direct compensatory efforts on the part of the intima.

To come back to some of the theories first advanced in regard to the etiology of this disease, they are not far different from those we hear to-day. Many of you doubtless recall the old discussion between the effect of peripheral resistance, the theories of Traube and Huchord, versus the theory of the irritating effects of the blood current, the theory of Bright and the theories of Gull and Sutton. These theories may all be virtually reconciled with the knowledge, theoretical and otherwise, which we have of this condition to-day.

One anatomist tells us to-day that the disease is the result of increased peripheral resistance which institutes nutritional changes in the larger arteries, resulting in the primary degenerations in the adventitia and media, and resulting compensatory attempts on part of the intima. Another tells us that we have toxic conditions of the blood which affect the intima and exert a nutritional effect on the outer coats, and we have the development of the characteristic arterial changes. Now, this one fact which I have mentioned of a general primary defect in the outer coats means what? It means nutritional disturbance; it means that the tonicity or integrity or ability of these coats to resist pressure, or their ability to respond to vasomotor influences is modified, because they have lost their nutrition, and they lose their nutrition because the blood which is supplied them is imperfect. Thus we get back to the toxic theory advocated to-

* For text of paper, see page 535.

night, and which agrees with what we know to be the etiologic factors which produce these changes in the arterial system. Personally, so far as I make anything out of it, I am a believer in the toxic etiology of arteriosclerosis in the majority of instances.

Another point: We are not justified in assuming that all of the heart changes are due to the effects of this disease on the general vascular system, nor that they are due to the effect of arteriosclerosis of the coronary arteries because we find various portions of the heart affected in different cases. We find certain types of cases that give certain heart results, and the same types again which, in a general way, do not give these heart results, so that we have to bring in here the element of toxicity again, the nutritional effect in regard to the blood supply of the heart muscle without reference to the condition of the coronary arteries or arteries in general.

In relation to the symptoms of the nervous system, so graphically described or arranged by Dr. Patrick, I can only indorse his statement as to the unreliability of these symptoms as a means of diagnosis. Certainly I would indorse the statement that we can get all those symptoms in other conditions; yet there are certain symptoms which are associated with, at least, certain types of arteriosclerosis, with the so-called cerebral type, if you will, largely or strongly indicative of disease irrespective of the condition of the palpable arteries. Among those which I have noted myself strongly are headaches, although I agree with several authorities that headache is in no way directly related to this type of disease. Cheyne-Stokes breathing is usually present at some period of the cerebral type of disease. Arteriosclerosis may manifest itself by disturbed mental faculties; transitory aphasia, either ataxic or amnesic, but more often amnesic; transitory loss of memory, and, especially in men who are about the streets, loss of ability to locate themselves. Several patients have complained of transitory inability to locate their position. They would be a block perhaps from their place of business and not be able to find it for ten or fifteen minutes. The Stokes-Adams condition, I believe, is not any more directly related to the cerebral type than it is to the condition of the heart itself; that it appears most frequently in connection with these two states—a diseased myocardium, with the cerebral type of arteriosclerosis.

To-day we are very much in the habit of thinking that high blood pressure and arteriosclerosis are interdependent. As a matter of fact, very marked conditions of arteriosclerosis may be characterized by low blood pressure, and so much so that a man may be much deceived by his finger on the pulse. For instance, I guessed that the blood pressure was 140 or 150 in marked cases of arteriosclerosis, and found it was only 90, showing how far one may be out of the way in his calculations. Hard arteries do not necessarily mean high blood pressure. High blood pressure does not always mean hard arteries or arteriosclerosis. The effect of the vasomotor condition on the arteries is marked. A man may have his blood pressure vary from 160 to 220 while waiting in the office for an examination. A comparatively trivial business matter may disturb him and get him excited, thus changing his blood pressure. We must be careful about postulating a definite influence from the presence of high blood pressure unless we have opportunity to test the blood pressure a number of times under favorable conditions and know what it averages in the individual patient, and unless we know what the condition of the kidneys and the condition of the heart are under different circumstances.

With reference to the treatment, it is a wide subject to deal with under these circumstances, but the first thing I would lay stress on is elimination. The elimination of these patients as to total solids and total urea usually is deficient, and the only way to understand what is going on is to keep track of the total solids and the total urea. I would call attention to the efficacy of small doses of salicylate of soda and manganese in increasing the total solids and urea in these cases. Two grains of each three times every twenty-four hours is effective. Again, the right kind of exercise is important. It should not unduly raise

blood pressure, and the best exercises are walking and horseback exercise, taken slowly.

The next important thing is diet. That phase of the subject has been gone over carefully by Dr. Hall, and if we follow his instructions and observe the well-known axiom of Cheyne in regard to a man's diet, namely, after he is 40 years old, to gradually eat less until at 70 or 80 years, he has again acquired the diet of an infant, we will have followed the best course.

As to medicine I want to say a word or two about it. Let us suppose that a man comes to us with a blood pressure of 170 or 180. What can we give him to bring that blood pressure down? The only absolutely reliable vasodilator we have is opium, but we can not use it very well in this class of cases. It is the only thing, however, that has a sufficiently prolonged effect to maintain its influence over the vessels long enough to do any particular good. The next best thing is nitrite of soda. Some authorities claim that possibly the toxic effects of any nitrite might offset its advantages. I never have seen that such has been the case. We get good effects from the right dose of nitrite of soda, and the right dose is individual. It is not possible to tell the proper dose of nitrite of soda until you have experimented with it. Nitroglycerin is not a good remedy, in that it is too rapid and evanescent in its effect, except in cases of general arteriosclerosis, where you have hard arteries that will stand a good deal of such a remedy. In the localized varieties of arteriosclerosis, I do not believe nitroglycerin is a good remedy.

Dr. R. B. Preble:—I feel very much handicapped in attempting to discuss a set of papers which I unfortunately was too late to hear. I think it means a great deal that we have a program of this sort, for the question of arteriosclerosis is one of the most important in the whole range of medicine and also one a proper conception of which is not as widespread as it should be. I find no error so common in cases of this sort as failure on the part of the practitioner to appreciate that he has to do with a generalized disease, no matter how specialized the particular phenomena from which the patient is suffering may be; that, though the phenomena may be concentrated about the heart, nevertheless the case is not a heart case. There may be phenomena concentrated about the nervous system, and yet it is not a nervous case. There may be kidney complex, but it is not a kidney case, and anyone who attempts to form any conception of this group of cases with the idea that it may be the heart, the kidney or the nervous system is bound to have altogether an inadequate and inaccurate conception of the case.

Another thing: Unless one realizes that the disease is a generalized one, it is a difficult matter to see how one individual may at the same time or at different periods present such diverse phenomena. It is not an uncommon thing to find cases of this sort that present striking nervous phenomena which upon a superficial examination would be considered essentially disease of the nervous system; yet, within a few weeks or months, the phenomena of cardiac disturbance may be so pronounced that all nervous phenomena are forgotten, or there may be implanted on a history of nervous phenomena and of cardiac disturbance disturbances of the gastrointestinal tract, or of the locomotive organs, so that unless one realizes that we have to do with a generalized process and that all the wide variety of symptoms are due to the same underlying process one is led to make a multiplex diagnosis when a simple one is correct.

Another thing which, I think, is often times overlooked is the fact that, while the disease is more common in the latter half of life, it is by no means unknown in the earlier portion of life. I recall one instance in the case of a fellow-practitioner, a young man of singular promise, whom I saw first when he was 28 years of age, suffering from what he thought was toxic angina. He was a heavy smoker and had an angina pectoris, which he was quite willing to refer to his tobacco. Yet upon examination he showed a widespread arteriosclerosis, and the angina was not a toxic angina, but a true angina, and in the course of the next few years the attacks of angina became more and more frequent and disturbances of various organs began to develop until finally he had to give up his office

work and take a vacation. He went away and was gone for a year, and during that time there developed an aortic insufficiency. During the year he developed another phenomenon which we see frequently in these cases, if we follow them for long periods of time, namely, evidence of serious mental disturbance. Fortunately, before he became absolutely incompetent mentally, he acquired pneumonia and died shortly thereafter. Yet his age was only 32, and he was not an alcoholic; he was not a syphilitic; he had no distinct hereditary taints, and there was no particular reason why he should have arteriosclerosis which killed him practically in the early thirties. This will illustrate that the disease is not confined to the latter half of life. I have seen instances of similar changes in children, although I have not yet had an opportunity to follow such a case as that over long periods.

Another question which is always important in these cases is the one of prognosis. When one recalls how many accidents these individuals are liable to, it becomes at once obvious that a definite prognosis can not be given. Anyone may have a fatal angina or a stroke of apoplexy or may develop a thrombosis in some one of the mesenteric arteries, etc. We have an infinite number of phenomena which may bring about death suddenly without there being any particular phenomena to indicate that the condition suddenly was going to the bad; or the case may go on year after year, particularly if the individual is in favorable financial circumstances, and life can be much prolonged. Of course, the earlier the condition is recognized, the better the chances are for continued moderate activity.

Another aspect of the matter is the influence of autointoxications in the causation of this condition, and, as shown by the discussion this evening, this is a matter of importance, but I think there are other influences as important, and I am not at all certain in my own mind but that these influences are still more important than those of intoxications we have been talking about. I refer to the elements of nervous strain. No matter what the strain may be, sooner or later the individual is going to feel the effects of that strain upon the vascular system, and I believe that in many of these cases, where the etiology is obscure, where there is no definite history of extraneous intoxication, no definite history of any infection, it will be found that these individuals have been subjected to a long strain.

In regard to the treatment, I have nothing in particular to add to what Dr. Hall has said, only that the iodids are useful in this group of cases. But the iodids act slowly, and the only way in which we can expect to accomplish much by the use of the iodids in these cases is to be sure that we use them over long periods of time, not a few weeks or months, but continue their use throughout the entire life of the individual. I do not mean continuously, but frequently interrupted by short periods, more with the idea of protecting the gastrointestinal tract than for any other reason. They may be given for a month, and then discontinued for a month, throughout the life of the individual. They should be given in small doses.

Dr. Patton spoke of the use of opium which reminded me of a case which taught me a very valuable lesson. The patient was an old man who had a marked degree of arteriosclerosis which clinically was particularly manifested in his myocardium. The old fellow had not been able to sleep very much and for a long time before I saw him he had been taking a certain amount of chloral to secure some sleep. When he came into the hospital we saw no reason for discontinuing this drug. He was in the hospital three or four weeks without making any improvement at all, suffering from attacks of angina frequently, with almost continuous dyspnea, and getting a little rest from the chloral. One night he went into coma and we thought that was the end of the old man. He was in coma for thirty-six hours, then woke up, and in the course of a week or ten days after he woke up he was in such condition that he was able to go south, where he died suddenly some weeks later from an attack of angina. We finally concluded that in some curious way the chloral which he had been taking had had a cumulative effect, thus causing the prolonged sleep, and that this gave the heart an oppor-

tunity to adjust itself. Since then I have frequently brought about such artificial coma, not by the use of chloral, but by the use of morphin, pushing it until the patient is in a coma and keeping the patient in coma for twenty-four or thirty-six hours. I have done that many times with great satisfaction. It must be stated, however, that in some patients the results were not satisfactory. On the whole, I believe I learned a valuable lesson from the old man, and one which all of you will have an opportunity to remember at least. Of course, it is to be said that you are playing with a dangerous instrument when you take a patient of that sort and give him morphin until he becomes comatose. But in many instances the patient will experience a great benefit that can not be had in any other way.

Dr. Rosalie M. Ladova:—In regard to early arteriosclerosis I would like to cite a case that came to my notice recently. It presents some interesting features and I do not think it will be out of place to mention it.

The patient is a young man, 26 years of age, who was taken sick suddenly on the train while on the way east, and had hemiplegia. He was treated by physicians in the east and after he returned to Chicago I had a chance to examine him. He wanted to know what was the cause of his paralysis and said his physicians never told him definitely what it was. I examined him and questioned him closely; I know the members of the family well and know the man. His mother is a confirmed neurotic. She has raised a large family; but in her last pregnancy was quite ill. The fetus died in utero, and an artificial abortion was performed. His father shows marked senility in his appearance. Some of the children show Hutchinson's teeth, and this young man shows them too. His upper incisors are distinctly notched. He is a man of good habits and emphatically denies luetic infection. On examination I found signs of myocarditis and slight hardening of the radial arteries. He recovered from the hemiplegia quite well, only he has slight halt in his gait and an impediment in his speech. He can not write as he did before the stroke of paralysis. He wrote a very pretty hand and now he writes like a child. He also told me that he worked very hard and some days would put in as many as eighteen hours in working. He wanted to know the cause of his paralysis. I told him that I could not say definitely the cause of it, I did not want to mention the possibility of hereditary syphilis, and regarding this cause the history is not clear. His trouble may be due to hereditary syphilis or to overwork. I have under observation another case, a man of 36, who shows very marked arteriosclerosis. He takes his pint of beer every noon and has often some beer in the evening. He is also a hard worker.

Dr. Julius Grinker:—I want to call attention to the fact that sometimes one of the earliest signs of arteriosclerosis is uncontrollable bleeding. In former years I saw a number of cases in which there was excessive bleeding from the nose or throat, which was beyond the control of the surgeon. It was found for the first times that these patients had arteriosclerosis and the arteries could not be compressed. It is remarkable that one of the worst cases of this kind occurred in a young man, 35 years of age. He did not die. Another case, an older man, was that of a policeman who had been an alcoholic and never knew he had arteriosclerosis. In fact, he had never been under treatment for any ailment. He died from a hemorrhage in the post-nasal space that could not be controlled by either of the three physicians in attendance.

Another point in connection with arteriosclerosis that I want to bring out is this: I recall two families in which one member after another developed arteriosclerosis at an early age. The hereditary element, therefore, must also be considered, a point which has not been brought out very strongly in this discussion. I believe too many practitioners blame syphilis and the excessive use of alcohol for this disease entirely, but hereditary influences must be considered very strong factors in its production. On the other hand I have seen, and others have frequently reported cases of arteriosclerosis in individuals who for many years have enjoyed the best of health and attained to good old age. One of my colleagues in a Berlin nerve clinic remarked that if everybody who had tortuous

temporals had arteriosclerosis, perhaps nine-tenths of the race must be arteriosclerotic. This is certainly not so. A tortuous temporal artery is not necessarily an indication of arteriosclerosis, nor is hardening of the radial unmistakable evidence of general arteriosclerosis, as was already emphasized by one of the speakers.

Arteriosclerosis occasionally occurs in patients who have had syphilis twenty or thirty years previously without any nervous or other symptoms in the intervening period. They had the ordinary secondaries, no tertiary symptoms, and yet at the end of twenty or more years there is arteriosclerosis. This must be classed as belonging to the metasyphilitic disorders the same as tabes and general paresis.

Dr. Preble is right in what he has said about nervous strain. Why is arteriosclerosis so common among men who gamble on the stock exchange? And on the other hand, why is it comparatively rare among the clergy? The answer is that the former lead a life of constant nervous excitement and are under great strain, while the latter as a rule contemplate the heavenly prospects with great serenity and do not strain every nerve fiber to accelerate the journey.

ARTERIOSCLEROSIS—ETIOLOGY.

ALFRED C. CROFTAN, M.D., CHICAGO.

(*Author's Abstract.*)

A discussion of the etiology of arteriosclerosis is a difficult problem so long as the clinical syndrome named arteriosclerosis remains so illy defined and poorly circumscribed. The term is employed synonymously by different authorities to indicate a variety of clinical conditions, to designate different symptom complexes. Anatomically, no clear and uniform picture is presented, because at different stages of the disorder different lesions of the arterial coats may be presented; moreover, special vascular areas may be, and often are, variously affected.

The so-called cardinal symptoms of arteriosclerosis, viz.: high arterial pressure and "hardening" of the arteries are not uniformly present and, when present, may be due to other causes than arteriosclerosis. For there are many cases of high arterial tension lasting for long periods of time that never produce hardening of the arteries (unless we choose to include under this heading some hypertrophy of the muscular fibers in the media that bestows a hard feel to palpable arteries) and there are many cases of true arteriosclerotic degeneration of the arteries in which the blood pressure apparently remains low throughout; for while high arterial tension is presumably always present in some region of the vascular tree, especially centrally, it by no means always becomes determinable at the periphery; hence the statement made by a number of very reliable authorities that in fully 50 to 90 per cent. of the cases of arteriosclerosis no abnormally high blood pressure is witnessed. The pathogenetic relationship between arteriosclerosis and high blood pressure is not clear, and it often remains uncertain whether the high blood pressure produces the arterial degeneration or whether changes in the structure of the arteries with narrowing of their lumen or impairment of their elasticity are the primary event, and the high blood pressure (in this instance becoming particularly manifest about the central vascular organs and not at the periphery) the secondary result.

In order to understand the etiology of arteriosclerosis, assuming the first eventuality to obtain, it is necessary to understand the factors that normally determine changes in the blood pressure. The blood pressure, as the name implies, is the pressure that the blood exerts on the vascular walls; the latter thereby become distended, and, owing to their elasticity, subject to a certain tension; hence the terms blood pressure and arterial tension may be employed synonymously inasmuch as the latter is the result of the former and each is a measure of the other. The term blood pressure, therefore, may be used either to indicate the pressure of the blood on the vascular walls or the pressure of the latter on the former. Between these two forces a certain antagonism self-evidently exists, normally always tending towards the establishment of equilibrium that materially aids in the circulation of the blood. The blood pressure becomes increased with each systolic contraction of the ventricles and this increased

tension is primarily transmitted to the arterial wall. During the cardiac diastole, the tension of the arterial walls still remains high and aids in compressing the blood near the periphery and hence completes its propulsion onward to the finer endarterioles. For these reasons, as stated above, the blood pressure is normally higher in and near the aorta than in the peripheral vessels.

Three factors then determine blood tension, viz.: First, the energy of the cardiac contractions; second, the peripheral resistance; and third, the mass of the blood. From the heart emanates the primary *active* force that propels the blood into the arteries and causes the latter to become distended. The peripheral resistance produced (1) by the so-called vascular tone of the peripheral vessels; (2) by their smaller caliber (Poiseuille's law, "The rapidity of the blood flow is inversely proportionate to the square of the vessel diameter") is a *passive* agent and causes a temporary accumulation of blood in the arterial tree and also raises blood pressure and arterial tension. The mass of blood, finally, is the necessary indifferent agent that, pushed from behind and compressed from in front, causes the distension of the arteries, in other words, arterial tension. Changes in either of these three factors singly or combined must needs produce changes in the blood pressure.

Of the three factors the character of the peripheral resistance is the most important one in the pathogenesis of arteriosclerosis. This factor is dependent on the state of vasoconstriction, i. e., (1) upon elements that stimulate the vasomotor nerves supplying the muscularis of the peripheral vessels, or (2), upon the power of these vessel walls to respond to vasomotor or mechanical influences in such a way that they can contract or dilate, in other words, upon their elasticity. One could postulate in arteriosclerosis, therefore, either that certain elements produce spasm of the arteries with narrowing of their lumen and high arterial tension and that the latter in time produces constant irritation of the vessel followed by secondary inflammatory, scil., arteriosclerotic changes throughout the arterial tree. Or, that certain factors produce endarteritis with permanent mechanical narrowing of the arterial lumen, with loss of vessel elasticity and also impaired nutrition of the vessel walls from poor circulation through the vasa vasorum (dystrophic arteritis), whose lumina become narrowed or that themselves become involved in the endarteritic process. With arteriosclerotic changes once established in this way, high tension is permanently maintained at least in some areas of the arterial system and a vicious circle in this way closed.

The circulation of abnormal toxic bodies must, in most instances, be incriminated with producing the above abnormal states and the number of poisons that can produce these various results, that all in their ultimate consequences lead to arteriosclerotic changes in the arteries, is legion. They may be exogenous or endogenous with bacterial toxins occupying an intermediary position; for in the latter the offending agent is introduced into the body from without while the poisons are generated within. They may act acutely and produce serious damage to the arteries in a short time, owing to their high toxicity or special selective affinity for the arterial intima, or they may act chronically for a long time, often for years, before arteriosclerotic changes become at all manifest. The former group directly produce the endarteritis spoken of above, the latter more generally the vascular spasm, constant or paroxysmal, through the agency of abnormally irritated vasomotor nerves; or both effects may be, of course, and frequently are, combined.

To discuss these different etiological factors separately would lead too far. As a matter of fact very little that is definitely established can be said in regard to any one of the causes enumerated above. Underlying most cases of arteriosclerosis there must be a predisposition, possibly neurosal, or, may be, to be characterized as a deep seated metabolic perversion of undefined origin. Or one might postulate a congenital tendency to vasomotor instability or a condition that might be called a "weakness" of the vessel walls, i. e., an inability of the arterial coats to respond, without detriment to their structure, to sudden or frequently repeated

strain, nervous or muscular, with resulting high blood pressure or rapid changes in the blood pressure level.

The experimental method of determining the specific causes of arteriosclerosis has so far produced very scanty results and none of the reports in regard to experimental arteriosclerosis are free from ambiguity. This applies particularly to work done in rabbits, for in this species (and I believe from my observations that the whole herbivorous class may be included in this category) atheroma and calcification, especially about the aorta, are not infrequently discovered by chance; just how high blood pressure maintained for a period of weeks should produce arteriosclerosis, when we know of innumerable instances clinically in which high blood pressure maintained for years does not produce this result, is hard to understand, unless one were to postulate some specifically irritating qualities in the various pressor principles employed that can cause arterial inflammation.

Empirically, lead, alcohol and tobacco are accused of producing arteriosclerosis in human subjects; possibly they do, but the proposition, as far as I can see, has so far escaped exact proof or demonstration. Nearly all the infectious diseases are also incriminated with this rôle, especially by French writers (viz., by different ones: Inflammatory rheumatism, tuberculosis, typhoid, pneumonia, sepsis, variola, scarlatina, influenza, malaria). Syphilis, too, is by many considered a frequent cause. Whether these infections really produce the arterial degeneration or whether they merely aggravate a chronic insidious process so that it becomes manifest, remains to be determined.

Metabolic disorders and notably diabetes, gout, obesity and autotoxemias, finally, seem to be very frequently associated with arteriosclerosis. To what extent the circulation of abnormal products of perverted metabolism produces the arteriosclerosis or to what extent nutritional disturbances in important organs, as the result of arteriosclerosis, cause functional insufficiency of the latter (pancreas, liver, kidneys) with resulting disorders of metabolism, is also undetermined and probably undeterminable.

That functional inadequacy of important disintoxicating and eliminating organs as the liver, thyroid, suprarenals, gastrointestinal wall, the kidneys, can cause flooding of the blood and tissue juices with abnormal products, is clear: that many of the latter (and this includes the poisons occasionally absorbed from putrid bowel contents in intestinal and hepatic insufficiency) are pressor principles and can raise blood pressure as well as cause arterial inflammation, is established. Here, undoubtedly, must be sought the most common and incidentally, the most apparent and the most readily demonstrable cause of arteriosclerosis; and it is here that the experimental method in my judgment promises to furnish the most fruitful results. I call attention in this connection, with all modesty, to the work on this subject that I published in 1900 on "The Rôle of the Alloxuric Bases in the Production of Cardiovascular Changes, etc.," for here I showed conclusively that the injections of small quantities of certain purin bases (congeners and precursors of uric acid and produced in excess in hepatic insufficiency) is capable of producing arterial changes, especially about the kidney vessels, that are indistinguishable from those seen in arteriosclerosis.

CHICAGO MEDICAL SOCIETY—CHICAGO PEDIATRIC SOCIETY.

Joint Meeting, held Feb. 19, 1908.

A joint meeting of these societies was held Feb. 19, 1908, with the president of the Chicago Pediatric Society, Dr. J. W. Vanderslice, in the chair.

SYMPOSIUM ON GONORRHEA IN CHILDREN.

Papers were read as follows: 1. History, by Dr. Julia D. Merrill. 2. Pathology, by Dr. George H. Weaver. 3. Diagnosis, Clinical and Bacteriological, by Dr. W. L. Baum. 4. Prevention, by Dr. A. C. Cotton. 5. Vaccine Treatment, by Drs. William J. Butler and J. P. Long.

These papers were discussed by Drs. Adolph Gehrmann, Effa V. Davis, Alice Hamilton, Ruth Vail, A. C. Soper, Carl O. Young, W. S. Baer, George H. Weaver, John M. Dodson, and the discussion was closed by Drs. W. L. Baum, Wm. J. Butler and Ruth Vail. Adjourned.

DISCUSSION.

Dr. Adolph Gehrmann:—My experience with this question has not been in the institutional epidemics of gonorrhea, but rather in the examination of a number of cases that have occurred in young girls whom I have had occasion to see in connection with physicians as the result of criminal attacks. Those cases were diagnosed by microscopic examination and appeared in every way like the cases of gonorrhea in older persons. The inflammatory result of the infection was like the infection we have in older persons. The thing that strikes me at once in Dr. Weaver's paper is the widespread distribution and in the amount of damage the gonococcus can do in the human subject, but a more important point is how many times and how generally do we see such cases as he has described. Considering the large number of cases we see, the complications are not as widely disseminated as one might think from the amount of evidence we have as to the distribution of the gonococcus. That phase of the subject is, perhaps, interesting; why do we have these extensive changes and extensive infections from the gonococcus sometimes, and why do we have it generally in cases in such a limited form. What is there in the susceptibility of the individuals to make this wide difference.

A word or two in regard to the origin of the infection. It seems to me that it is perfectly feasible to believe that a child can be infected through the genital tract of the mother in delivery, as the eyes can become infected. Why can not the gonococci, which cause the inflammation, remain latent until they get deeper and deeper in the vulvovaginal orifice, or into the urethra, and then produce the infection? I have seen one or two cases in young children where the evidence of outside infection was not clear. One case in the practice of Dr. Bremken; this was a most persistent case of infection which lasted for at least a year.

A very interesting point is with reference to the organisms. We have practically three organisms to deal with in this connection, namely, the gonococcus, the micrococcus catarrhalis, and the meningococcus, as diplococci growing inside of cells. The main points are not in the microscopic study of the organisms, but only in a general way. When we come to the final differentiation by culture we find the gonococcus can hardly be grown at all, while the micrococcus catarrhalis is the easiest developed, whereas the micrococcus intracellularis can be grown with a moderate amount of care and supervision, so that we have to take into account not only the microscopic study, but also the cultural features of the particular organism found in the different cases.

It would be interesting if we could have studies of the complications of gonorrhea more thoroughly worked out. It is only in large institutions where some one can do this work individually and work up the material to get the matter in shape for use.

It is possible that gonorrheal endocarditis is much more common than we think. Endocarditis in children may have its latent origin through some infection by the gonococcus at some previous time.

Dr. A. W. Baer:—I would like to ask if the gonococcus is a complete aërobe or not?

Dr. Adolph Gehrmann:—It is aërobic in its general characteristics. It does not make much difference whether it is slightly facultative or not. There is great difficulty in cultivating it. It is grown mostly as an aërobe. It may be little anaërobic as well as aërobic, and possibly it may grow a little under anaërobic conditions.

Dr. Effa V. Davis:—I regret very much that Dr. Walker was unable to be here to read his paper, but I have jotted down some things which have occurred to me as needing emphasis and which, I believe, Dr. Walker would have mentioned if he had read his paper.

One of the important things I wish to speak of is with reference to the manner in which we have treated this disease for many years from an ethical standpoint. It is a matter which has been kept secret. It has been considered ethical for the physician to hide the nature of the disease, especially in the cases of mothers or of women acquiring the disease from their husbands. Cer-

tain it is, there are a great many cases of gonorrhea in the female in which the patient herself does not know the character of the disease. In this way she spreads the contagion, and in my experience a large number of these cases occur in private practice. I have talked with other physicians regarding this matter and they have come to the same conclusion. These cases do not arise in hospitals or institutions, but they arise in private practice. A child being taken into a hospital with latent or subacute gonorrhea will, of course, spread it about the institution. I think we must put forth all our efforts to inform our patients. It is not only our duty to the patient, but it is our duty to the public, and where our ethical teaching has come in conflict with this principle I believe we would do well to revise our ethics.

Within the last year or so, when I have encountered these cases, I have told patients frankly the nature of the trouble and, it seems to me, not so much trouble has arisen from that as in keeping the matter a secret. I believe in making a frank statement to the patient as to how the disease is acquired, and point out the best means of checking its spread. These cases arise in private families more frequently than we have heretofore appreciated. It may not arise primarily from the father of the family. In many instances the servants or the caretakers of the children are the ones who have conveyed the disease. This is a matter which I think all of you, perhaps, have had more or less experience with. In general hospitals, where this disease is being treated in the surgical, gynecological and obstetrical wards, and children's wards are in the same building, the disease may exist in the subacute form and not being recognized, inadvertently be conveyed to children by a change of attendants.

When a gynecological patient has to be treated for an inflammatory pelvic condition, it is not held necessary to make diagnosis that the condition has been produced by gonorrhea; but such patients probably spread the disease by not having a correct diagnosis made, and it is rather hard to make a correct diagnosis in some cases.

In the obstetrical line the possibility of babies contracting vaginitis from the birth canal has been mentioned. I think that is possible, but it is not frequently the case, and the reason I believe is because in most instances the genitals are covered very largely with the vernix caseosa which protects the mucous membrane of the vulva more than that of the eyes.

Notwithstanding the old teaching of oiling the baby as soon as it is born, I wash it. Of course, the oil bath is a good thing after the water bath has been given, but I believe the maternal vaginal secretions can be removed more readily and thoroughly by a water bath than by an oil bath, and we always give the water bath in my practice. The water bath is given first and then oil applied to remove the vernix caseosa.

I wish to mention again, the subacute cases in obstetrics. Many times a gonorrhea is not suspected in a pregnant woman neither during her pregnancy nor at the time of delivery; but in the eyes of the infant a mild ophthalmia will appear, much to the surprise of the physician. These cases of subacute gonorrhea are to be looked for and in the cervical canal during pregnancy often a tell-tale discharge will be found.

The habit of using a thermometer in the rectum for taking the temperatures of infants and of children in institutions should be frowned upon. The temperature can be taken in the groin as correctly as in the rectum, if it is properly done, and, it seems to me, there is danger of infecting the rectum with a gonorrheal thermometer. Of course, thermometers are supposed to be disinfected before they are used, but sometimes this is not thoroughly done. The use of individual thermometers for every child would obviate some of that danger.

The teaching of the public in regard to the name of this disease, its character and contagiousness, will relieve physicians to some degree of the burden of telling patients. Sometimes it is a disagreeable burden, and one we have to be very careful about.

I would like to have the bacteriologists present discuss the microscopical differentiation between a pus cell with gonococci in it, and one that is of a catarrhal

nature. That came up once in my experience and a false diagnosis was made, and it is, I believe, not always very easy to distinguish.

Dr. Alice Hamilton:—I would like to say a few words about the diagnosis of these cases of latent gonorrhea in children which Dr. Baum has spoken of—the cases with a thin, scanty discharge, which constitute so great a danger to institutions and hospitals because they so easily escape observation.

Any one who has followed the cases of gonorrheal vaginitis in children for a long period of time knows that the discharge is subject to long intermissions. There may be months in which the child has no purulent discharge, but only a thin, slight mucoid one, and yet gonococci may be present in the vagina all the time. It is obviously of the utmost importance that we should be able to recognize such cases.

Dr. Baum has spoken of the havoc wrought in hospitals when a case of gonorrheal vaginitis is admitted to the ward. There is a striking instance in the literature of an epidemic in an establishment in Switzerland. Souchard reports the cases of eleven little girls, one little boy, and a woman, all of whom were bathed in a newly cemented tub. The water was changed for each case. The children were all supposed to be free from vaginal discharge, although one girl, who was scrofulous, had a thin scanty discharge. This suddenly became purulent, and although she was isolated at once, the ten other little girls developed a purulent vaginitis. The woman and the boy escaped.

It is comparatively simple now to diagnose a typical case of gonorrhea from a smear when the microscopic examination shows it to consist mostly of leucocytes, and these leucocytes contain diplococci. We hardly need a gram stain to decide the fact that the discharge is gonorrheal. It is the atypical case, the case which is not showing any purulent discharge, that is difficult to diagnose, and there is not as yet entire unanimity in medical literature on this point. But the weight of opinion seems to be about this: A spontaneous vaginitis in a child under 10 years that is not caused by trauma or by extension from other skin lesions—such a discharge should always be regarded as suspicious of gonorrhea. When we find under the microscope that a smear from a little girl shows a few epithelial cells and large numbers of leucocytes; when, instead of the usual, varied bacterial flora, we find very few or almost no bacteria, then the case is probably gonorrheal, even though no gonococci can be found on the first examination. In such cases it is desirable to obtain a culture, but as special culture media containing ascites fluid or blood are required, this may not be possible, and in such cases it has been recommended that a small amount of sterile distilled water be injected into the vagina, as this will produce within twenty-four to forty-eight hours a rather profuse vaginal discharge, in which the gonococci can be found when they could not be found before.

To recapitulate then: All cases of vaginal discharge in little girls are suspicious when no cause can be discovered. When such a discharge shows many leucocytes and few bacteria, it is very suspicious of gonorrhea, and repeated examinations should be made before the case is pronounced non-gonorrheal. As Dr. Baum has said, such a case may go on for months without the discharge becoming purulent, and then under the influence of some acute infectious disease the real character is discovered.

I would like to say a few words about the penetration of the gonococci to the upper genital tract. Many have maintained that the gonococci in obstinate cases must penetrate into the endometrium and thus escape the action of antiseptics in the ordinary methods of local treatment. The cases of peritonitis and of inflammation of the tubes and ovaries, which Dr. Weaver spoke of, are rarities, and yet there seems to be some proof in favor of the view that the gonococci do gain entrance to the uterine cavity, even where there are no symptoms of such a complication. June, of Berne, has established proof of this fact. He examined smears from the cervical canal of twenty cases of uncomplicated vaginitis in little girls. He rejected all those cases in which he found the gonococci on the portio vaginalis surface and vagina, and accepted only those in which the gonococci appeared in cultures from the cervical canal and not from the portio vaginalis.

Even after this rigid test, he succeeded in finding two positive cases out of his twenty. This is probably an under statement. If it represents the exact truth, then this proportion is pretty large. If 10 per cent. of all cases of ordinary, apparently uncomplicated, vaginitis in little girls are really cases of gonorrheal endometritis, leading to changes which may cause later dysmenorrhea, if not sterility, then we should be obliged to look upon an epidemic of vaginitis in an institution or hospital as extremely serious.

Dr. Ruth Vail:—It is just a little over one year since we began at the laboratory of Dr. McArthur and Dr. Hollister at St. Luke's Hospital to study the gonococco-opsonic index and to test the gonococcus vaccine as a therapeutic agent. Our work has been mostly with adults, but the vaccine treatment remains practically the same in children as in adults. In general we have followed "Wright's technic." It is gratifying to find that almost every laboratory worker has modified this technic to a certain extent, with remarkably similar results, which speaks to me in favor of the technic, and it should not be abandoned because of its inaccuracy.

It has been convenient for us to use a ten to twenty hours' growth. This period gives a sufficiently luxuriant growth to do any experimental work, and the shaking machine obviates all difficulties with clumping. I believe the bacterial average is of no importance so long as it is within reasonable limits. With a bacterial average below one, a slight error is magnified in the index, but so long as it is not too great to count, and not too low to be accurate, it is of little importance. We can not use a sufficiently high bacterial average to exhaust the opsonins. If we were to use an emulsion thick enough to exhaust the opsonins in undiluted serum we could not count the bacteria and practically all leucocytes would be phagocytes, so that the phagocytic index, as well as the bacterial index, would be of very little value, and just what value the dilution of the serum would have is an open question. Four of us working in our laboratory have diluted serum at different strengths, and a dilution of one-half has given in all our results, at times, a bacterial average as high as the undiluted serum. Have we then diluted the anti-bodies, or is not the opsonic index delicate enough to test the decrease of one-half of the opsonins? High dilutions of one-eighth, one-sixteenth, one-thirty-second show approximately a decreasing bacterial average. How much the results are modified by the leucocytes, taken from different individuals used as cream, is still an open question. It is evident that the sera of certain individuals agglutinate leucocytes to a marked degree.

As to the value of the opsonic index in diagnosis, from the results of over 400 estimations of the normal gonococco-opsonic index, we feel justified in concluding that there is in the blood of normal individuals an approximately equal measure of opsonins. We have studied the gonococco-opsonic index in 90 cases of gonorrhea, and in about 80 per cent. the diagnosis is positive. In no case of constantly low opsonic index have we failed so far to find the gonococci. This is not true with one examination, as has been spoken of. It is difficult to find gonococci with one examination. Several slides, with several hours' study, have been required in some cases to find the gonococci. From 10 to 15 per cent. have a perfectly normal index; therefore, a normal index by no means rules out gonorrhea.

As to the value of the index in the vaccine treatment, I believe it is of great value. To say that you would give the vaccine when the index was 1.0 instead of 1.4 does not seem to us reasonable. Counting a series of slides and re-numbering and recounting them, we get in our laboratory a variation sometimes of 0.4. I believe the opsonic index is a valuable guide in determining the size of the dosage, and I would be glad to always know it.

As Dr. Butler has said, sometimes a small dose will not give a reaction; a large dose will not give it, but a medium dose will. I have found that to be frequently the case.

As to the value of the vaccine treatment itself, the method is surely one to be commended, and I believe every worker, or nearly every worker, who has used the vaccine treatment will agree with me that there is no treatment that is

better. But that is not saying that the vaccine treatment is better than other methods, nor that cases get well; but the discharge clears up just as soon, and perhaps sooner, and the method of treatment is surely to be not only commended, but recommended. It can be used in a greater number of cases. It can be used with less disadvantage to the patient and to the doctor.

We have treated 60 cases with vaccine. Twenty cases were treated both with vaccine and with local treatment and passed out of our care entirely from within three weeks to three months, giving us very little chance to estimate the real value of the vaccine. We are especially encouraged with the opportunity which Dr. Hollister and I have of following a series of fifty cases of gonorrhea in young girls in a state institution, where we are assured they will be absolutely under our control for a year and a half. We have grouped them into five different classes according to the line of treatment, and the opsonic indices, urethral and vaginal smears and clinical results of those who receive vaccine treatment are to be compared with those who receive other lines of treatment. As I have said before, most of our cases have been with adults. I have in mind three cases especially of gonorrhea in children, two of whom have been under my observation for nearly a year. One of them when she came to us had had local treatment for two months. The discharge was increasing all the time. After the first injection the discharge cleared up considerably. After the second injection there was no discharge macroscopically visible, but gonococci appeared in the smears now and then. Only yesterday I examined some smears and found a few gonococci. Shortly after this child came, her sister came. Just how much there may be of contamination one by the other is hard to tell in these two cases, considering that the mother is intelligent and willing to do all she can.

Another case of gonorrheal pyemia was of great interest to me. This child had vulvovaginitis, gonorrheal ophthalmia, and gonorrheal pyemia. Three abscesses were opened and drained. We gave the child vaccine treatment, and although two abscesses appeared to be forming, they were not opened, but the ophthalmia grew steadily worse. The antiseptic treatment was increased. The strength of the antiseptic treatment was increased; the child received vaccine treatment, but grew worse. At last, all antiseptics were stopped. The child's eyes were irrigated with boracic acid; the vaccines were kept up, and within three or four days the eyes were perfectly clear and the child had perfect sight. I can not give the credit in this case to the vaccine treatment because the antiseptics were stopped, but when the antiseptics were resumed the leucocytes and the opsonins had a chance to work. It may be that the irritation was removed, which goes to speak strongly against antiseptic treatment, for, as Dr. Roark, in the February ILLINOIS MEDICAL JOURNAL, 1908, says, in quoting Sir Almothe Wright, "Our present antiseptics have a greater affinity for the constituent elements of the body than they have for any bacteria."

Dr. A. C. Soper:—I have had experience in the vaccine treatment of about 20 cases of gonorrheal vaginitis in little girls for the past seven months, and in about 10 of them opsonic index was observed. In all of the cases I have treated no other treatment was given. Through the kindness of Dr. Churchill, material was made available at the County Hospital, and after some work done at the Memorial Institute of Infectious Diseases, my conclusions are not very strong as to whether this treatment is going to be valuable or not. At any rate, it is well worth trying. My method has been almost the same as that used by others who have followed the Wright method, with this exception: I find twenty-four hour cultures good enough for any use, and particularly if a fairly thick bacterial emulsion is used. If I used too thin an emulsion, I got no phagocytosis at all. With our work at the County Hospital, with the assistance of the internes, we have had one white blood corpuscle count in connection with the injections, making one white count at the time of the injection and one count within twenty-four hours; or later on, within three days, from the time of the injections. We have not been able to find much difference in the leucocyte curve under the vaccine treatment. In most cases treated, where the index was followed, after a twenty-four negative phase, the height of the curve was reached about the third

or fourth day after the injection. In the later cases the internes made counts on the third and fourth days, and found no particular rise in the leucocyte count. All these cases we have kept in the County Hospital wards until four negative smears have been had, made two or three days apart. It is possible the cases should have been isolated and taken out of the venereal ward as soon as one negative smear is had, but we have kept them until four negative smears have been had.

I have not followed the cases after their discharge from the County Hospital and I do not know whether the disease was cured or not; whether the disease recurred, or still exists, I can not say, not having followed up the cases.

Dr. Carl O. Young:—In listening to the paper of Dr. Baum, I was surprised at one statement he made in connection with the series of cases that came under his observation and care at the County Hospital, namely, that he had observed no complications, such as salpingitis, bubo, or inflammation in the uterus. I was surprised at that statement since it is not in keeping with my own experience, which has not been large in diseases of children. Within the last nine months, however, I have seen two cases of gonorrheal bubo in children. The first case was referred to me by Dr. Olson of Roseland, for operation. The patient was a child 2 years of age, with a typical bubo, and in the purulent discharge from the vagina the typical diplococci with the leucocytes were found in large numbers.

The second case, a child of 3 months, I saw about four months ago. Both of these cases were seen at the Washington Park Hospital, and the last one made a very deep impression upon me since I made a mistake in diagnosis. Dr. Garrison referred the case to me. He considered it to be one of strangulated, inguinal hernia. The doctor, who had the case before him, had also made such a diagnosis. When I saw the case I fell in with their diagnosis.

As to the history, it was of acute onset, accompanied by vomiting, and a tumor in the inguinal region, which seemed to give an impulse on coughing, and the child was having a temperature of 100. I fell in with the diagnosis that was made, and thought I had a serious case to deal with. On cutting into it, there was a discharge of pus, and remembering a discussion which previously took place here in connection with Dr. Alice Hamilton's paper, I immediately looked for a discharge from the vagina, and found in it the typical gonococci. To me it seems reasonable to expect a bubonic complication in gonorrheal vulvovaginitis in children.

Dr. George H. Weaver:—There are one or two points that occur to me in connection with the discussion. It seems to me rather unfortunate that the discussion has entirely drifted into vaccine therapy. While vaccine therapy at this time is before the medical profession, and every one is interested in it, the present symposium deserves discussion on some other lines fully as much as, or more than in that particular one. It is very desirable that those who are doing vaccine work should follow it up, but I do not think we know enough about it at this time to say whether the vaccine treatment of gonorrhea is successful or not. At any rate, we do not cure these cases with vaccine treatment any faster than by letting them alone in most instances. The thing that appeals to me in this connection more especially is, what is to be done in regard to preventing the occurrence of these cases? In the first place, the parents of children who are infected with the disease should be informed as to its nature, and they should be instructed as to the measures necessary to prevent its spread to other individuals.

In regard to the occurrence of gonorrheal infection in hospitals, it is sometimes supposed that those who are running the wards of a hospital, where gonorrheal cases develop, are to be blamed for its occurrence. Dr. Baum and Dr. Hamilton have especially directed attention to the insidious way in which it gains entrance. Children who have had a vaginal discharge are brought to the hospital without any mention of it being made, or even with denial that it had existed. Sometimes, in going from a children's home to a hospital, the child is fixed up, nice and clean, so that the disease will not be suspected when they are transferred. The disease is brought in by patients with little discharge, gets into the wards unsuspected, and extends to others.

As regards prevention, it is possible only to prevent the introduction of this disease into public hospitals, like the contagious hospital at the County Hospital, by isolating absolutely every child that comes to the institution, and, of course, under present conditions anything of that sort is entirely out of question. It is not even possible with the accommodations that are at present provided to isolate a child for two or three days until the smears can have been thoroughly examined. With the present accommodations, with the present amount of contagious disease which must be taken care of in those wards, and the necessary crowding of patients without accommodations for isolation, I do not think it is possible to keep gonorrheal vaginitis out. It will come in constantly; it will be a constant fight to prevent its spread as much as possible among clean patients.

Dr. John M. Dodson:—I am satisfied that not only the general public and parents, but the medical profession should be educated in this matter. Some of the epidemics of gonorrheal vaginitis with which I have had to do, have occurred as the result of gross carelessness in the admission of patients to hospital wards with an acute gonorrhea, to which no attention whatever was called, the interest of the attending surgeon being concentrated on the surgical condition for which the patient was admitted. I believe that one epidemic was spread and continued by carelessness in taking uninfected female children to the clinic, patients with gonorrhea being in the clinic at the same time. It is important that members of the medical profession, especially those who have to do with hospitals, be impressed profoundly with the insidious nature of this infection, and the great difficulty of preventing its spread unless every precaution is taken. No patient with gonorrhea should be admitted to any hospital without recognition of the fact that he or she is a dangerous patient and must be handled accordingly.

Dr. —————:—I was particularly interested in hearing the reports of Dr. Butler and Dr. Vail. I have not had any experience in the treatment of gonorrheal vaginitis, but in the last year and a half I have treated some 40 cases of chronic vulvovaginitis and about 35 cases of arthritis, in adults. Of 15 of these cases regular routine observations were made with reference to the opsonic index. Without going into details, it seems to me in all these cases a tracing of vaccine treatment, while perhaps aided by the opsonic determination, could have been made as well by the use of observations and clinical symptoms. In fact, there are so many things which may influence the opsonic curve—trauma, massage of the joints—all these will influence the opsonic curve as much as whether you use vaccine or not. I have tried in the remaining cases to trace the vaccine treatment by observation of the clinical symptoms, as I think it can be done, and as favorable results can be obtained as from the vaccine treatment.

As to the use of vaccines in cases of urethritis, in certain instances after giving vaccines, in which the urethritis persisted, where an arthritis was present, in those the urethritis was made worse for about two days after giving injections, and then there was a subsidence. I doubt in a series of those cases whether any great benefit in the urethritis was derived from the vaccine treatment. But in cases of chronic periostitis and arthritis the use of vaccines has been of decided value.

Dr. Wm. J. Butler:—I am sure that those who have used vaccine treatment in gonorrhea in children have had incomparably better results than those obtained by any other method of treatment. This is so striking as not to require further comment. An important question at this time is a consideration of the question of prophylaxis.

I do not know to what extent epidemics of gonorrhea have occurred in the previous decades, but I know it has obtained to such an extent in the past several years that it certainly demands the best thought from those who are interested in children, or have to do with them, in some effort to solve the problem, and try, as far as possible, to stop its outbreak in children's wards or in children's hospitals.

While I appreciate most highly every statement that has been made concerning the diagnosis and other points that have been made with reference to ascer-

taining the presence of gonorrhea, I am fully convinced that more than that is necessary to eliminate the contagion in hospitals. The essentials for suppressing gonorrhea do not terminate with the making of the diagnosis, because frequently when the diagnosis is made there has been already opportunity for disseminating the disease and infecting others. Where gonorrhea gets into the ward of a hospital, isolating the one case after it has been one or two weeks in the ward is practically valueless so far as protecting incoming children, those in the ward at the time having been exposed to it. That ward must be closed up for the time being until every case has left and the whole ward disinfected.

We have not at the present time in our hospitals the method of isolation that ought to exist. Every child on entering a hospital should not only be kept under observation for a couple of weeks before being allowed into the general wards, but every child in the children's ward ought to be isolated from each other as far as practical until they leave. A system of isolation will not be carried out until there is concerted effort on the part of pediatricians to demand it.

By isolation after they have left the observation room or ward I do not mean placing them in separate rooms, but of effectively doing that in wards by isolating every article used in their care or toilet from that of every other in separate iron and glass cabinets placed at the bedside. Increasing bathing facilities so that all are not bathed in the one bath tub, supplying separate nickel sheet iron, seamless bath tubs for all infants, each tub to be hung under the child's bed.

All laundry from children's wards should be boiled before running through washing machines, or if not should be sterilized after being washed. They should not come in contact at any time in the laundrying process with the laundry of children or adults suffering from gonorrhea. Placing of wash basins in wards and requiring of nurses to wash hands each time after attending a child before proceeding to another. Where an examination by the physician has been extensive a similar rule should be observed. Gowns should be worn by both physician and nurse.

In Vienna and Berlin the pediatricians, who control large hospitals there, told me that they had long ago passed through epidemics of gonorrhea, and as a result they had developed a system of inspection and isolation which has practically done away with hospital epidemics of gonorrhea.

Dr. Ruth Vail (closing the discussion):—I wish to correct an erroneous impression I may have made as to my idea of the value of vaccine therapy, because I am in a position to say that it is of equal value with other treatments. We are hoping to have more to say about it in another year, but it has seemed to me from my observations in opsonic index therapy we stand more for asepsis rather than antiseptics, in order to keep the eyes absolutely clean, and, as for the other antiseptic treatment in the early cases, to deprive the individual of Nature's effort to protect against micro-organisms seems to be a mistake.

DE WITT COUNTY.

The annual meeting of the De Witt County Medical Society was called to order at 10:30 a. m. in Clinton, Ill., April 14, 1908, Dr. A. E. Campbell, President, in the chair. Officers for the ensuing year were elected as follows: Dr. S. A. Graham, Clinton, president; Dr. J. A. Wilcox, Clinton, vice-president; Dr. C. W. Chapin, Weldon, secretary-treasurer; Dr. J. C. Meyers, Clinton, censor; Dr. A. E. Campbell, Clinton, delegate.

Cases were reported as follows:

Dr. Chapin reported a case of apical pneumonia, with postfebrile delirium of great violence, of one week's duration. Also a case of hydatid mole. The above case of delirium called forth free discussion by all present. Dr. Campbell reported a case of a male, aged 22. History: Had inflammatory rheumatism two years ago, father in the insane asylum for several years. Was called March 11. Patient complained of pain in the ankles and knees; the former were inflamed and swollen; treatment with salicylates for several days relieved all symptoms,

and the patient asked leave to go to the pay car; being refused, he went two days later to the freight house; the following day he went up town and felt perfectly well; on his way home, he says, he almost fell down, dark objects appeared before his eyes, and he reached home with some difficulty and at once laid down and slept soundly for two or three hours. When he awoke he did not know where he was, he yelled and shouted at the top of his voice, abused his mother and friends and made vicious attempts to land a right-hand swing on the jaw of any person that dared go near him. The pulse was 110 to 140, temperature normal, respiration 20 to 40, as he was wild or quiet. He continued in this condition for ten days, when it was noticed that the pleura on the left side was full of water. Cathartics and diuretics were given and the fluid was slowly absorbed and the delirium gradually disappeared.

The lesson to be learned from this case is that violent delirium resembling acute mania may be present in pneumonia or pleurisy of a mild form, so that when delirium is present to any extent a careful examination of the patient is very essential. Again, there was no pain or fever or sputum characteristic of pneumonia or pleurisy, the only pain he complained of was on the opposite side over the liver and the right lung was examined repeatedly. Dr. Campbell stated that he had also noticed that delirium is more frequent in patients who have a history of insanity in the family. Four physicians saw this case and all were deceived by the fact that his father was in the insane asylum. The delirium was violent, but when the trouble in the chest subsided the mania disappeared.

There were present Campbell, Wilcox, Graham, Carter, Dean and Chapin.

Meeting adjourned till the second Tuesday in May at 10 a. m.

JASPER COUNTY.

The regular meeting was held in Newton on Friday, April 3. Owing to the bad condition of the roads our country members were prevented from being present. We enjoyed the address of our new councilor, Dr. W. K. Newcomb, of Champaign, who suggested several new ideas regarding the county society and means of interesting the members and securing a better attendance.

M'LEAN COUNTY.

The annual meeting of the McLean County Medical Society was held in the Council Chamber of the City Hall on the evening of April 2, 1908. The meeting was called to order by President Godfrey at 8 o'clock. Dr. Vandervort reported for the boosters' committee that several physicians had been solicited for membership, but none thus far secured. A letter from Dr. Black, which was tabled at the February meeting, was read, but no action taken. A letter from Dr. J. Little setting forth objections to the payment of the extra \$1.00 assessed by the State Society for the establishment of a "defense fund" was read. Dr. Vandervort made a motion that a committee be appointed to confer with Dr. Little relative to his position as expressed in the above letter. Motion seconded and carried. The chair appointed Drs. Lee Smith, A. L. Fox and M. D. Hull as such committee.

The secretary-treasurer made his report for the year April 4, 1907, to April 2, 1908, which showed:

Receipts	\$497.18
Bills paid	443.88
Bills unpaid (three)	63.05
Cash on hand	53.30

(Thirty members still owe dues for 1908.)

This report was accepted. The president appointed Dr. R. D. Fox and Dr. J. L. Yoltan as auditing committee to report at the next meeting.

Election of officers for year 1908: President, Dr. Godfrey; vice-president, Dr. Taylor; secretary-treasurer, Dr. R. D. Fox; censors, Drs. Rhodes, J. L. Yoltan and G. R. Smith; delegate to state convention, Dr. Rhodes, who has the privilege

of selecting the alternate. Dr. Vandervort offered the following amendment to Article II of the Constitution: Following the words, "annual meeting," the president shall appoint a nominating committee at the March meeting, whose duty it shall be to present to the society at least two names for each office.

The following bills were read and allowed:

Feb. 13.—To stamps	\$ 1.00
Feb. 14.—To stamps and large envelopes.....	.50
March 2.—To 75 postals, notices of March meeting.....	.75
March 2.—To Nimrod Mace, for 1,000 letter heads.....	2.50
March 2.—To Nimrod Mace, 180 invitations, March meeting.....	1.00
March 2.—To stamps for 175 invitations, March meeting.....	3.50
March 5.—To Dr. Millikin as "honorarium".....	45.00
March 7.—To rent of Unitarian Church for Dr. Millikin.....	15.00
March 10.—To stamps	1.00
March 16.—To Pantagraph for 7-line local for Dr. Millikin	1.40
March 24.—To E. W. Weis, dues for thirty-two members.....	80.50
March 27.—To J. D. Robinson, floral emblem for Dr. Covey.....	4.00
March 30.—To postals, notices of April meeting.....	.75
April 1.—To Bulletin for 7-line local for Dr. Millikin .....	.50
April 2.—To E. W. Weis, dues for fifteen members	37.50
April 2.—To O. M. Rhodes, salary for 1906 and 1907.....	50.00
Total	\$244.90

The name of Dr. Watson W. Gailey of Bloomington was proposed and referred to the board of censors. The following members were present: Drs. Freeman, Vandervort, Dobson, Welch, Carr, Hull, Sloan, Fox, Fox, Howell, Guthrie, Yolton, Yolton, Sargent, Taylor, Godfrey, G. R. Smith and Rhodes.

F. H. GODFREY, President.

O. M. RHODES, Secretary.

PEORIA CITY.

The regular meeting of the Peoria City Medical Society was called to order by the president, Dr. C. U. Collins. The roll call of officers showed the following present: Drs. Collins, Bacon and McFadden. Dr. R. A. Hanna reported some observations made during the recent visit to Rochester, Minn. Among the changes noted was the transplanting of the cord in inguinal hernia while formerly it was not transplanted, the increased caution in regard to hemorrhage even of the smaller vessels around the appendix, and a large percentage of suprapubic prostatectomies. Dr. Collins also spoke of his trip to Rochester. He said that Dr. Chas. Mayo was very careful in operating on exophthalmic goiter where the heart muscle was degenerated and a venous pulse was present. In those cases he does a ligation of the separate thyroid arteries under cocaine and does the excision of one lobe after a two or three months interval. Dr. O. F. Thomas and Dr. H. V. Thomas of Chillicothe, were unanimously elected to membership. The petitions of Drs. A. S. Plummer and B. F. Forrest for membership were read and referred to the board of censors. A bill of \$11.40 for printing was read and allowed.

Dr. W. T. Gillespie read a very instructive paper on the "Analysis and Modification of Mothers' Milk." This was followed by a lively discussion by the following members: Drs. Parker, McFadden, Sidley, Bacon, S. M. Miller and Conibear, with a closing of the discussion by Dr. Gillespie.

J. H. BACON, Secretary.

ST. CLAIR COUNTY.

The annual meeting of the St. Clair County Medical Society was held in the Elks' lodge room, East St. Louis, on Wednesday, April 1, 1908, with the following officers and members present: J. W. Rendleman, president; J. W. Twitchell, vice-president; C. S. Skaggs, corresponding secretary; C. W. Lillie, recording secre-

tary; A. E. Hansing, treasurer; H. E. Wangelin, H. Hanson and G. E. Hilgard, censors; and members A. B. Gunn, James Sloey, E. H. Bottom, J. G. Massie, J. C. Caldwell, H. C. Fairbrother, C. E. Eisele, W. E. Wiatt, R. L. Campbell, Walter Wilhelmj, J. A. Grimes, G. C. Adams; J. A. Campbell, Marissa, guest. On motion a committee of three was appointed to prepare by-laws for the society. The president appointed R. L. Campbell, Geo. E. Hilgard and J. C. Caldwell. Treasurer Hansin reported receipts for the year, \$278.67; expenses for the year, \$239.87; leaving a balance of \$38.87 in the treasury. On motion the report of the treasurer was accepted.

The board of censors reported favorably upon the applications of Gustav A. J. Ludwigs, East St. Louis; J. A. Nolan, New Athens; J. A. Campbell, Marissa; and F. C. Little, East St. Louis, and on motion all were elected to membership in the society.

On motion, a committee of three, R. L. Campbell, Geo. E. Hilgard and H. E. Wangelin, was appointed to nominate officers for the ensuing year. The committee reported recommending the following members for the offices named: President, James W. Twitchell; vice-president, W. S. Wiatt; corresponding secretary, G. E. Hilgard; recording secretary, J. C. Caldwell; treasurer, J. G. Massie; delegate to the State Society, J. W. Rendleman; alternate, A. B. Gunn. On motion the report of the committee was accepted and the several officers elected in accordance with the recommendation of the committee. The incoming president appointed R. L. Campbell, C. W. Lillie and H. E. Wangelin as censors for the year. Priester's Park was selected as the place for the next meeting.

C. W. LILLIE, Recording Secretary.

UNION COUNTY.

The Union County Medical Society met in the rooms of the Union Club on March 25 and had quite an interesting meeting. They received two new members. A very able paper on "Influenza" was read by Dr. F. A. Sabin and brought out a lengthy discussion by every member present. Dr. A. J. Lyerly read a paper on "Early Diagnosis of Pulmonary Tuberculosis," which was also discussed freely. On motion the meetings were changed from quarterly to monthly as it was thought we could create more interest in the meetings, and other points to the advancement of the society are under consideration.

VERMILION COUNTY.

The Vermilion County Medical Society met Monday evening, April 13, 1908, at Danville. Program: "Why I Am an Optimist," T. P. French; "Active Principle Therapeutics," H. B. Downes; "Tarso Metatarsal Dislocation," R. A. Cloyd. Dr. Cloyd received some gracious compliments on his manner of presenting his case, with his concise review of the literature on this comparatively rare dislocation. Dr. Clark reported a case of diplobacillus conjunctivitis, with microscopical demonstration. A committee appointed at the last meeting presented resolutions asking the county papers not to use the names of physicians in connection with reports of cases, and the secretary was instructed to forward a copy to each paper in the county.

E. E. CLARK, Secretary.

NEWS OF THE STATE.

PERSONAL.

Dr. and Mrs. Jacob Frank have returned from New Orleans.

Dr. Alfred D. Kohn has been reappointed a member of the board of education of Chicago.

Dr. Vincent J. Cohenour, Joliet, suffered a loss of \$200 in the fire which destroyed the Barrett Block.

Dr. Fred K. Ream, Oak Park, suffered slight injuries from an explosion of gasoline in his garage, April 12.

Dr. Henry G. Schuessler, health commissioner of Joliet, fell while making a call recently and sprained his ankle.

Dr. C. D. Jones, for eighteen years medical examiner for the Burlington System, has resigned and will practice in Aurora.

Dr. William H. C. Smith, Godfrey, has been appointed trustee of the Illinois Asylum for Feeble-Minded Children, Lincoln.

Dr. James L. Lowrie, Lincoln, was seriously cut by broken glass in a collision between his buggy and an interurban car on March 28.

Dr. Stephen V. Balderston has been appointed commissioner of health, Evanston, to serve during the absence of Dr. William P. Parkes in Europe.

Dr. William K. Smith, health officer of LaHarpe, has resigned. A new board of health has been appointed consisting of Dr. John C. Ash, president; Dr. Isaac M. Martin, secretary; Dr. Edward W. Buhrmaster, health officer, and Dr. Levi J. Rhea.

Dr. D. J. Doherty, who has spent the last two years in the Philippines, has returned to Chicago permanently and expects to open an office in the near future. Dr. Doherty is at present located at the Plaza Hotel, North Clark Street and North Avenue.

NEWS ITEMS.

Do not fail to read the "Want Ad." Department in this issue.

D. Appleton & Company, New York, have removed their offices to 29-35 West Thirty-second Street.

Dr. W. T. Bridges, of Stonington, has announced his candidacy for the State Senate, subject to the decision of the Democrats of Christian County.

If you have anything to sell, rent or exchange, address **THE ILLINOIS MEDICAL JOURNAL**, 1916 Evanston Avenue, Chicago, Want Ad. Department.

For Sale and Want Department. If you are contemplating making a change in Illinois it will pay you to look over the items in this department, found in the advertising section.

J. C. Byer, 6509 Minerva Avenue, Chicago, was recently prosecuted in Judge Sadler's court and it is reported that he was found guilty of practicing medicine without a license. He was fined \$100.

The city prosecutor of Chicago promises that he will prosecute physicians and business houses that advertise cures for certain diseases and weaknesses. The ordinance provides fines varying from \$25 to \$200 for conviction in such cases.

H. E. Lano, who conducts what is called a "Hygienic Institute" on the north side in Chicago, is said to have been fined \$200 by Judge Scovel, April 3, on the charge of maintaining a hospital without license. The plaintiff failed to appear.

Read the advertisements. The editors have made an effort to cleanse the advertising department of objectionable matter, and ask the co-operation of the readers in giving the advertisers a fair consideration. Do not fail to mention the ILLINOIS MEDICAL JOURNAL when corresponding with any of the advertisers.

Dr. John H. Hollister, in his eighty-fourth year, and a resident of Chicago since 1855, has written an article on the "Evolution of the Northwestern University Medical School," which is published in the current quarterly bulletin of that institution. Of this institution Dr. Hollister can say *omnia quorum vida; pars quorum fin*.

Dr. Harriet Hook, of the staff of the Illinois State Asylum for Feeble-Minded Children, Lincoln, who was arrested March 12, it being alleged that she entered the home of a former inmate of the asylum in disguise, is said to have been found guilty, March 21, and fined \$10 for disorderly conduct. She refused to pay the fine and took an appeal.

In the suit of James Doyle, who charged Dr. John C. Owens, Plainfield, with malpractice in the treatment of a fractured leg, the jury found Dr. Owens not guilty. Dr. Owens has started an assumpsit suit against the plaintiff for \$500 to cover the amount due on the medical bill, cost of the malpractice suit, and the loss of time in attending the trial.

The Michael Reese Hospital of Chicago will have a handsome home for nurses through the generosity of Gustav Freund. Mr. Freund has transferred to the hospital, in memory of his father and mother, the attractive three-story dwelling on the southeast corner of Groveland Avenue and Twenty-ninth street for the nominal consideration of \$1.00. The property, however, is a gift to the hospital. The lot fronts fifty feet on Groveland Avenue and ninety-six feet on Twenty-ninth Street. It is across the street from the hospital.

The St. Louis Medical Society of St. Louis, Mo., devoted a part of the meeting of March 7, 1908, to papers in memorial to Dr. Nicholas Senn. The topics under discussion were as follows: "Senn as a Man,"

W. B. Outen, M.D.; "Senn as a Writer," George Homann, M.D.; "Senn as a Teacher," W. H. Stauffer, M.D.; "Senn as a Surgeon," W. H. Meisenbach, M.D.; "Senn as an Operator," Carroll Smith, M.D. This unusual compliment to the memory of Dr. Senn testifies to the remarkable esteem in which he was held by the medical profession in all parts of the country.

Two stories are to be added to St. Joseph's Hospital building, Chicago. The sixth floor is to be devoted entirely to operating, consultation, waiting rooms and a laboratory. The seventh floor will be arranged for sunbaths, outdoor sleeping and exercise. A six-story annex building will be erected on the lot lying just north of the present building. It will be of fireproof construction, with all the latest scientific hospital equipment, and providing every facility for the care and comfort of the patients. Dr. John B. Murphy has been chosen as surgeon-in-chief in succession to the late Dr. Nicholas Senn.

Edward P. Hibbard, of Oak Park, said to be the head of the "Boston Medical Institute" and the "Bellevue Medical Institute," has been arraigned in Judge Bethea's court for alleged misuse of the mails. He is accused of defrauding boys and young men by sending them sensational reading matter to make them believe they were in danger of physical doom. Hibbard is alleged to have represented that his medical staff consisted of eleven specialists, when, in fact, the government avers he had but two physicians, one receiving \$25 a month and the other \$125 a month. He is said to have drawn a salary of \$10,000 a year as treasurer.

THE JOURNAL of the American Medical Association, March 14, 1908, published a detailed discussion on modern high finance and the method of working the medical profession as employed by the Abbott Alkaloidal Company of Chicago. The article discusses in detail the following methods, which it has summarized briefly in the foreword of the article:

"That the president of the Abbott Alkaloidal Company has used, and is now using, his position as a member of the medical profession as a commercial asset.

"That the company is publishing what purports to be a medical journal devoted to the medical sciences and the interests of medical practitioners, but which, to all intents and purposes, is a house organ devoted to the interests of the company and to the advertising of its products.

"That the president and the vice-president of the company, though engaged in commercial lines, are members of medical societies and use this membership in medical meetings to advance the interest of their firm.

"That the same officers, for the same reason, flood the reading pages of medical journal with so-called original articles which are but thinly veiled advertisements.

"That by glowing promises the company has induced physicians to become financially interested in its business and thus users and promoters of its products."

MEDICAL SOCIETY NOTES.

Dr. Mary M. S. Johnstone, on March 28, delivered a lecture in the Chicago Public Library on the general subject, "Diseases of Children."

The following officers have been elected for the Menard Society: President, Dr. W. A. Mudd of Athens, and Dr. Irving Newcomer of Petersburg was re-elected secretary.

A public lecture was delivered in the Chicago Public Library, Saturday evening, April 18, 1908, by Dr. M. H. Mack. Subject: "The Cause and Prevention of Indigestion."

The members of the Will County Medical Society have been invited to meet with the Medical Society of Grundy, May 5, in Morris. A dinner will be given at the Commercial Hotel.

The preliminary program of the American Proctologic Society has been issued for its tenth annual meeting, to be held in Chicago, June 1 and 2, 1908, with headquarters and places of meeting at the Palmer House.

The Whitehall Physicians entertained the Green County Medical Society at dinner on the occasion of the regular meeting of that society in March. Following the dinner the regular scientific program was given and the discussion of the papers was general.

At the April meeting of the North Shore Branch of the Chicago Medical Society the druggists of the district were invited, and a discussion of the general subject, "The Doctor and Nostrums," was held. A very considerable interest was manifest, and another impetus has been given to the propaganda for reform in proprietary medicines.

The Library of Morgan County Medical Society has taken the initiative in library work to furnish an index to other libraries and physicians for any medical subject matter you may desire. This work has been very carefully accomplished, and the scheme to index current medical literature has already given practical results for Morgan County and the other counties which have seen fit to adopt it.

At the regular quarterly meeting of the Mason County Medical Society, held in April, the following officers were elected: Dr. C. W. Carrigill, Mason City, president; Dr. H. C. Rogier, Mason City, vice-president; Dr. E. E. Rohrsbaugh, San Jose, secretary-treasurer. Drs. E. W. Paul, Forest City; B. C. Graves, Topeka; Nelson A. Wright, Manito, and W. R. Grant, Easton, were newly elected members.

The St. Clair County Medical Society, at its annual meeting April 1, in the Elks' clubrooms, East St. Louis, elected the following officers: President, Dr. J. W. Twitchell of Belleville; vice-president, Dr. W. S. Wiatt, East St. Louis; corresponding secretary, Dr. J. C. Caldwell, East St. Louis; recording secretary, Dr. J. E. Hilgard, and treasurer, Dr. J. G. Massie, Belleville. The next meeting of the society will be held July 2 at Prister's Park.

Great interest has been manifest in Chicago in the campaign against nostrums. Nearly all of the branch societies have held special meetings, either jointly with the druggists or alone, to discuss the nostrum prob-

lem and the importance of educating both the physician and the druggist in the proper uses of drugs and the method of prescription writing. Great good to the profession and the people alike will result from these efforts to learn the truth about official and non-official remedies.

The Will County Medical Society held a banquet at Joliet, March 17, in honor of Dr. Carl E. Black, Jacksonville, Ill., and Dr. Malcolm L. Harris, Chicago. The former delivered an address on "Medical Libraries." Both Dr. Black and Dr. Harris told of the establishment of libraries for physicians and dentists in various cities of the country and of the benefit to be derived from them. The proposed library for the society will contain about twenty-eight medical journals, and it is expected that space will be allotted for it in the public library building.

Dr. C. C. Hunt, councilor of the Second District, has arranged for a joint meeting of the physicians of Marshall and Putman Counties, to be held at Henry, May 12. The object of this meeting is to unite these two small counties into one medical organization. A scientific program has been prepared and papers will be read by Dr. Frank Allport of Chicago, Dr. Wm. O. Ensign of Rutland, and Dr. Robert E. Dakin of Magnolia. Dr. Hunt is laboring faithfully to organize his whole district, and we trust there will be a good attendance at this meeting.

The Evanston Branch of the Chicago Medical Society recently held a joint meeting with the druggists of the vicinity, at which there was a profitable discussion of nostrums, counter-prescribing, incompatibilities and other matters of interest to both professions. The resolutions suggested by Professor Hallberg concerning prescribing by druggists were adopted. After this meeting there was organized the Evanston and North Shore Pharmacological Society for the purpose of studying the composition, preparation and action of drugs. Licensed physicians and registered pharmacists of Cook County, north of Chicago, are eligible for membership. A banquet was held in Evanston, April 9, to assist the members of the two professions in getting better acquainted.

The Annual Ladies' Night Banquet of the Physicians' Club was held at the Great Northern Hotel, Friday evening, April 24, 1908, at 6:30 o'clock. Dr. Arthur N. Corwin was the chairman for the evening. Program: 1. Salutation and Introduction to the Symposium, Hon. Charles S. Deneen, Governor of the State of Illinois. 2. A Symposium: Some Lessons I have Learned; (a) Mr. S. E. Kiser, poet and newspaper correspondent; (b) Prof. Shailer Mathews, editor and dean of the Divinity School, University of Chicago; (c) Hon. Adlai E. Stevenson, former vice-president of the United States; (d) George Ade, author and playwright; (e) William Hodge, "The Man From Home." Col. James Hamilton Lewis, Mr. John T. McCutcheon and Mr. Richard Henry Little, who did much toward making last year's Ladies' Night the splendid success that it was, were this year guests in a "silent" capacity.

PUBLIC HEALTH.

Sterling has an epidemic of measles.

An outbreak of smallpox is reported at Oreana.

Several cases of smallpox are reported in Flora.

An epidemic of smallpox is said to be raging in Hillsboro.

Five cases of smallpox were reported in one house in Lincoln.

Two cases of smallpox were recently discovered in Bloomington.

Several cases of smallpox have been reported at Blood, in Edwards County.

Four cases of diphtheria were reported in Ottawa and five in one family in Paris.

District School 38, in Ephard's Point Township, has been closed on account of smallpox.

Cases of smallpox have been reported at Fairbury and various points in Livingston County.

The Oregon School in East Cass has been closed on account of the prevalence of smallpox.

Henderson County reports smallpox in the Olena neighborhood, where the school and church have been closed.

The public schools and all public gatherings in Eureka, Woodford County, have been closed on account of an epidemic of smallpox.

Several cases of rabies have been reported at Newport, Madison County. The family in which the cases occurred is in poor circumstances and the cases have been taken to the Pasteur Institute. The expenses are being defrayed by the state.

Dr. E. F. Baker, inspector of the State Board of Health, and Dr. Tully O. Hardesty, physician of Morgan County, discovered 18 cases of smallpox in Literberry, in the northern part of the county, all of mild type. None of the patients had ever been vaccinated.

The health commissioner in Chicago has leased the second floor of 129 Harrison Street, and as soon as the building can be put in readiness will open an emergency relief station, which will be in charge of Dr. George C. Hunt, chief of the ambulance staff.

A reduction of the force of medical inspectors, to conform to the appropriation made by the Council in the budget, was made by Health Commissioner Dr. William A. Evans. The force of seventeen inspectors was reduced to six and the salaries of these were increased from \$75 to \$200 a month.

During the first three months of 1908 a total of 8,828 deaths were reported to the Bureau of Vital Statistics of Chicago—276 fewer than the corresponding period of last year. The death rate of the quarter ended March 31, 1908, was 16.35, 6.7 per cent. lower than the first quarter of 1907 and 13.6 per cent. lower than this quarter's average for thirty years.

The Illinois State Board of Health is pushing its Propaganda against the Spread of Tuberculosis in Illinois. It has just recently issued another circular of the "Cause and Prevention of Consumption." The

circular is very comprehensive. It includes a thorough discussion on how to fight consumption, how to cure consumption, home treatment, sanitarium treatment and a discussion of climatic conditions.

It has been decided to divide the city into six districts, each district being in charge of a medical inspector, who will devote his entire time to this work. All the employes of the department will wear a uniform after April 1. Those below the grade of medical inspector will wear a blue blouse, with a single row of distinctive brass buttons, and a black soft felt hat. The medical inspectors will wear a double-breasted coat, with velvet collar and brass buttons, with a single gold star on the collar, and a black soft felt hat. The ambulance surgeons will wear a red cross on the left sleeve. Heads of departments will wear the same uniform as the medical inspectors, with two stars on the collar, and the commissioner will have three stars and a white soft felt hat.

At a general election, held in Cook County, April 7, the people voted to instruct the County Commissioners to issue \$2,000,000 worth of bonds for the building of a new consumptive hospital for the county. The present institution at Dunning is to be turned over to the state. During 1907 and up to March 28, 1908, the Cook County Institution cared for about 2,805 out of approximately 8,000 tubercular patients of the county, or about one-third. Of the 350 tubercular patients now cared for by Cook County, 40 are quarantined at the poorhouse, as beds elsewhere are unavailable. A hospital for late cases of tuberculosis surpasses all other measures in the fight against disease, inasmuch as it limits the contagion.

Health Commissioner Evans of Chicago, in a letter to Mayor Busse, calls attention to the danger of pollution of the water supply of the city from the neighboring lake cities, and asks for aid in securing a commission to investigate and report on the matter. Dr. Evans suggests that the commission be composed of one member, to be appointed by the Federal Health Department; one by the War Department; three from Chicago, to be named by the mayor; one from town north of Chicago, to be named by Governor Deneen; two from Milwaukee, to be named by its mayor; one from Grand Rapids, to be named by its mayor; one to represent Hammond, Whiting and East Chicago, Ind., to be named by the mayors of these cities; and one each from Wisconsin, Indiana and Michigan, to be named by their respective governors.

The *Bulletin* of the Chicago Health Department has made the following announcement which is of interest to Cook County physicians, as considerable difficulty has been experienced in getting specimens to the laboratory for examination:

"For the convenience of physicians, the Health Department has established branches in all parts of the city for the distribution of diphtheria antitoxin, vaccine, diphtheria culture outfit and Widal test outfits. These branches have been equipped with incubators and hereafter physicians may leave specimens for examination at any of these stations if more convenient than delivery at the laboratory. Messengers will collect

the specimens and take them to the main laboratory for examination twice each day—7:30 a. m. and 2 p. m. Results of examination will be reported to physicians by telephone and mail from the laboratory, 215 Madison Street. The Health Department distributing and incubator stations have been established in the following police stations: South Side—Harrison Street Police Station, located at Harrison and LaSalle Streets; Hyde Park Police Station, Lake Avenue and Fifty-third Street; South Chicago Police Station, Commercial Avenue and Eighty-ninth Street; Stock Yards Police Station, Halsted Street and Forty-seventh Place. West Side—Desplaines Street Police Station, Desplaines Street, near Randolph; West Chicago Avenue Police Station, Milwaukee and Chicago Avenues. North Side—East Chicago Avenue Police Station, Chicago Avenue and North Clark Street; Sheffield Avenue Police Station, Sheffield and Diversey Avenues.

The *Bulletin* of the Chicago Health Department for April 4, 1908, devoted considerable space to the general subject of lodging houses and the care of the public charity lodgers, and came to the following conclusions: "The results of this experience may be briefly summarized as follows:

1. The Chicago public was protected against contagion.
2. The homeless men were kept clean, healthy and free from suffering.
3. Some unworthy, idle and drifting criminals were forced out of Chicago.
4. Some innately honest but weak men were shielded from being driven into crime.
5. It was demonstrated that men can be sufficiently fed for health and strength for less than 7 cents a day.
6. Feeding, housing, heating, bathing and medical supervision can be done (without rent items) for 9 cents a day.
7. That lodging houses can be kept clean, well ventilated, not overcrowded, giving a bath and sufficient heat and run at a good profit for less than 10 cents a bed.

Our tenancy and that of the *Tribune* expired April 1. The maximum attendance of 1,234 on March 22 was gradually reduced without friction to 295 at time of closing. The men, in the main, left the city. They were not our citizens and it was not right, nor did humanity longer demand, that they should remain here to compete with our home labor.

May we not draw three general lessons from this experience: First, most men eat far too much and they would be far happier, far healthier and far more capable of resisting disease if they would eat much less; second, a scientific study of foods would make it possible for a large proportion of the population getting small wages to save and accumulate some portion thereof; third, taking it by and large, humanity is economy."

ALUMNI MEETINGS.

ALUMNI REUNION OF NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.

The approaching meeting of the American Medical Association will be held in Chicago, June 2-5, 1908. The Northwestern University Medical School is fortunate this year in having a combination of the Alumni Week with a meeting of the American Medical Association. One of the special features of this session is to be a series of alumni reunions of the different medical colleges in this country. Owing to the central location of Chicago and its unusual opportunities, we anticipate a larger attendance than usual. A cordial invitation is extended to every graduate of Northwestern University Medical School to be present at the annual alumni dinner, which will be held on Tuesday evening, June 2, at 6 o'clock, at the New Illinois Athletic Club, 145 Michigan Avenue.

ROBERT T. GILLMORE, Chairman Alumni Week Committee.

FREDERICK R. GREEN, Member of Alumni Committee of the Northwestern University Medical School.

ALUMNI REUNION OF KENTUCKY SCHOOL OF MEDICINE.

To the Alumni of the Kentucky School of Medicine: During the meeting of the American Medical Association there will be a reunion and banquet of the alumni of our college at the Auditorium Hotel, June 2, 1908, at 6:30 p. m. The members of the faculty will be present and hope to meet the alumni from the entire country. An attractive musical program is being arranged, and there will be addresses from the alumni and members of the faculty.

Address all communications to Dr. J. R. Pennington, Secretary of the Alumni Committee, appointed by the local Committee of Arrangements for the Kentucky School of Medicine, 103 State Street, Chicago.

NEW INCORPORATIONS.

Resthaven Sanitarium Company, Elgin; capital, \$35,000; care and treatment of sick; incorporators, George F. Washbourne, Marion Foster Washbourne, Richard N. Foster.

Lake View Hospital and Training School for Nurses, Chicago; capital, \$2,500; to conduct a hospital and training school for nurses; incorporators, Charles Gorr, Jessie Forrester, Walter B. Schwerchow.

CHANGE IN LOCATION.

Dr. E. H. Raschke has located at Austin.

Dr. A. L. Graves has located at Milford.

Dr. J. M. Rohan has located at Galesburg.

Dr. Albert E. Froom has moved to Mount Rose, Colo.

Dr. J. C. Weber, of Clay City, has removed to Olney, Ill.

Dr. M. C. Munn has removed from Lee to Sycamore, Ill.

Dr. W. R. Welch, of Chicago, has located at Wilmington, Ill.

Dr. A. W. Miles has removed from Quincy to Monroe City, Mo.
 Dr. Charles E. Parker has removed from Harmon to Sterling, Ill.
 Dr. Guy M. McClain has removed from Chicago to St. Joseph, Mo.
 Dr. Robert R. Smith, of Mt. Vernon, has removed to Woodlawn, Ill.
 Dr. J. F. Wharton has located at Homewood, a suburb of Chicago.
 Dr. H. H. Sherwood has removed from New Windsor to Bowen, Ill.
 Dr. B. L. Good has removed from Wilmington, Ill., to Van Wert, O.
 Dr. J. F. Roach has removed from Quincy to 33 Elaine Avenue, Chicago.

Dr. Harry C. Worthington has removed from Oak Park, Ill., to Beloit, Wis.

Dr. J. Y. McCullough, of Newton, has removed to Caset, Ill., taking a partnership with Dr. W. H. Stoltz, of that city.

Dr. William C. Van Benschoten announces his change of residence to 6516 Kimbark Avenue, with office at 427 E. Sixty-third Street.

Dr. Henry W. Cheney, of Chicago, announces the removal of his office to Suite 9, 427 East Sixty-third Street, corner of Kimbark Avenue. He has also arranged for a downtown office in the Columbus Memorial Building, 103 State Street.

MARRIAGES.

JOHN W. HANSHUS, M.D., to Miss Hannah Oberg, both of Chicago, February 18.

JOHN E. TUTTE, M.D., to Miss Emma McSweeney, both of Rockford, Ill., March 3.

TRUMAN WILLIAM BROPHY, M.D., Chicago, to Mrs. Esther Strawbridge, of Moorestown, N. J., March 31.

DEATHS.

GEORGE T. THOMAS, M.D., Rush Medical College, Chicago, 1874; of Kansas City, Mo.; died at Geneseo, Ill., March 15, from angina pectoris, aged 55.

JAMES J. ROWE, M.D., Eclectic Medical Institute, Cincinnati, 1858; died at his home in Abingdon, Ill., February 29, from paralysis, after an illness of five years, aged 76.

STEPHEN TYLER HUME, M.D., Berkshire Medical College, Pittfield, Mass., 1844; for sixty-three years a resident of Geneseo, Ill.; died at his home in that place, March 21, from acute nephritis, aged 89.

FRANK JONES DEWEY, M.D., Rush Medical College, Chicago, 1885; a member of the staff of the Chicago Free Dispensary; died at his home in Chicago, March 23, from injuries received March 8 in a collision between his bicycle and a street car, aged 56.

CLEMENT VENN, M.D., Rush Medical College, Chicago, 1887; of Chicago; formerly superintendent of the Milwaukee County Insane Hospital, Wauwatosa, Wis.; died in St. Joseph's Hospital, March 23, from nephritis, after a prolonged illness, aged 40.

ALEXANDER SCOTT KIRKPATRICK, M.D., Pulte Medical College, Cincinnati, 1888; a practitioner for thirty-six years; died at his home in Lincoln, Ill., from senile debility, March 13, after an illness of two years, aged 75.

CARLOS MONROE MAXFIELD, M.D., Eclectic Medical Institute, Cincinnati, 1870; of Chicago and Waukegan, Ill.; was stricken with heart disease, March 31, and died while being taken to a hospital in Chicago, aged 60.

DESIRE O. SCHEPPERS, M.D., Rush Medical College, Chicago, 1866; for twenty years a member of the staff of St. Joseph's Hospital; died at the Cook County Institution, Dunning, from endocarditis, March 10, aged 59.

JAMES CONOVER, M.D., of Stonington, Christian County, died April 1, 1908, aged 86 years. He was born in Gettysburg, Pa., April 16, 1822, served as surgeon during the rebellion, came to Illinois in 1876, and had practiced in Christian and Macon Counties.

F. W. SCHROEDER, M.D., University of Göttingen, Germany; of New Bremen, Ohio; who retired from practice about twenty-five years ago; died at the home of his daughter in Mt. Carroll, Ill., February 21, from senile debility, after an illness of two months.

WEBSTER W. WYNN, M.D., University of Buffalo (N. Y.) Medical Department, 1855; post surgeon at Dixon, Ill., during the Civil War, and for half a century a practitioner of that city; died at his home from paralysis, February 28, after an illness of four days, aged 78.

JAMES C. MOLYNEAUX, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1885; of Woodland, Ill.; local surgeon for the Chicago & Eastern Illinois Railroad; died at the Augustana Hospital, Chicago, April 4, from tetanus, after the amputation of his leg, due to a fracture received in a runaway accident ten days before, aged 50.

ROBERT ROBB, M.D., Keokuk (Iowa) Medical College, 1898; D. V. S., Ontario Veterinary College, Toronto, 1894; a member of the American Medical Association and of the George F. Jenkins Medical Society, Keokuk, Iowa; formerly of Hiteman, Iowa, and later of Newton, Ill.; died at his home, March 14, from pneumonia, after a short illness, aged 55.

JOHN C. COOK, M.D., Chicago Medical College, 1880; a member of the American Medical Association, and in 1903 chairman of the Section on Diseases of Children; instructor of diseases of children in the Post-graduate Medical School of Chicago; pediatrician to Chicago Hospital; superintendent and chief of staff of the Jackson Park Sanitarium for sick children; a director and member of the staff of the South Side Free Dispensary; a pioneer in the crusade against impure milk; one of the organizers of the Chicago Pediatric Society and the Chicago Physicians' Club; author of many monographs dealing especially with diseases of children; at one time surgeon of the Illinois Central and Michigan Central railways; died at the Chicago Beach Hotel, March 21, from meningitis, after an illness of several weeks, aged 53.

ILLINOIS STATE MEDICAL SOCIETY

MEDICO-LEGAL COMMITTEE.

EXECUTIVE COMMITTEE.

FROM ILLINOIS MEDICAL SOCIETY.

H. N. Moyer, 103 State St., Chicago. Central 2751.	C. D. Pence, 859 Turner Ave., Chicago. Canal 1335.
W. L. Noble, 100 State St., Chicago.	M. L. Winstead, Wetaug, Ill.
E. W. Wels, Ottawa, Ill.	

FROM CHICAGO HOMEOPATHIC MEDICAL SOCIETY.

N. B. Delameter, 31 Washington St., Chicago. Central 1926.	J. B. Cobb, 42 Madlson St., Chicago. Central 32.
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GENERAL COUNSEL.

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ORIGINAL ARTICLES

OPSONINS AND VACCINES IN TUBERCULOSIS.*

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The discovery of opsonin and the usage of the opsonic index has illuminated many clinical conditions hitherto almost inexplicable. Residing in a resort largely frequented by tuberculous invalids, my first thought, on returning from Wright's laboratory about eighteen months ago, was to ascertain if this new light might illuminate the cause of Colorado cures, or at least the reason apparent benefit befalls the newly arrived tuberculous individual.

Considering the changed conditions in high altitudes which become physiologic factors in a patient's progress, such as the increased radioactive emanation, rarefaction of the air, the abundance of violet rays, and Becquerel rays, the dryness and coldness of the air, and especially the long duration of sunshine, which, apart from its physical influence, determines so great a physical effect, "*Dove non entra il sole, entra il medico*," as the Italian proverb has it, with the resulting erythema, if one may here use the term to express the increased red corpuscles and increased hemoglobin, physiologic facts confirmed by the hyperemic marrow findings of Loewy and others, an increased opsonic power of blood serum naturally suggested itself.

Jessen,¹ of Davos, reported an increase of the agglutination power in the blood of people coming from the lowlands after a short stay in the Swiss Mountains; observations which, if corroborated, would suggest a certain opsonic increase. In order to test this question, nine healthy men were sent to the summit of Pike's Peak, over 7,000 feet higher than Colorado Springs, and kept there for a week. Their blood specimens in Wright's capsules were daily brought to me either by carrier pigeon or by one of the number returning. The indices of these men had been deter-

* Read before the Chicago Medical Society, Feb. 26, 1908.

1. Jessen, F.: Davos. Agglutination bei Lungen Tuberkulose; Beiträge zur Klinik der Tuberkulose, Wursburg, vi, No. 1.

mined to both the tubercle bacillus and to that variety of staphylococcus known as the *Micrococcus neoformans* of Doyen, several times before departure.

With two exceptions, these results had been uniform; these two, however, were low. It may be of interest to know that one of these subjects had been somewhat dissipated at the time, and the other was the only one who succumbed in the climb, fatigue having completely overcome him, so much so that his companions had to prod him and carry him to prevent him lying down in the snow to die. This unfortunate fellow, of evident lower vitality than the remainder, was brought down after two days with badly frozen feet. The blood specimens brought by the carrier pigeons were all jellified and, therefore, I felt that the results from these would not be quite fair in comparison with the controls. The pigeons arrived within an hour or two after obtaining their freedom.

The jellified bloods brought by the pigeons all yielded low indices to both organisms; the blood brought down by hand gave results which were all within the normal limits of from .8 to 1.2, showing no gains over the early observations. In all, ninety opsonic indices were made. These tests were corroborated by taking the indices of two men who worked on the Peak the whole summer. Estimation of the bactericidal power of the serum of some of these men to the typhoid bacillus also seemed to indicate no gain, although the method employed, which was that of Wright, is open to criticism.

These observations accord with some made on patients arriving from the East and from Europe, in whom I have several times found a similar low opsonic index to tubercle on arrival in Colorado Springs and for months following, as that observed by their former physicians. These results are by no means conclusive, the peak experiments especially being of short duration, but should it be confirmed that residence in, or change to a high altitude does not increase opsonin, other reasons must be sought to explain some of the beneficial results.

My observations of the opsonic indices of 50 cases of arrested and apparently cured cases of pulmonary tuberculosis have been invariably low, yielding a variation of from .5 to .9. It is perhaps probable that advantageous climatic conditions have enabled these patients to make the most of their low indices, allowing apparent cures, although Wright doubts if any person can be cured of any form of tuberculosis with a low index.

The question of auto-inoculations with their good or bad influences presents itself. Are these or their harmful possibilities minimized by the climate? According to Professor Bürker, blood coagulates rather more quickly in the mountains, and with a higher coagulable blood less lymph exudes to bathe tuberculous foci, so that less toxic lymph is returned to the circulatory blood. This can in itself tend to moderate auto-inoculations. A possible condition which might moderate the damages of auto-inoculations is the increased rate of tissue change. It is conceivable that the receptor cells, being kept in a more vigorous condition, would suffer less from the flood of positive and negative phases,

due to both tuberculous products and the products of mixed infections, in which the phthisical patients are apt to be so constantly bathed. I have little to offer to bear out these ideas.

I observed in London one patient with pulmonary tuberculosis who repeatedly met with disaster from being allowed to get up. I made repeated opsonic indices and one day found the tuberele index to be .5 before exercise, .7 after exercise, and the next day 1.64. This patient came to Colorado Springs and her index was many times observed, always keeping at .85 and .9 in spite of being allowed constant freedom with moderate exercise.

As is well known, most tuberculous patients on arriving in Colorado are kept at rest, usually in bed for from one to several weeks. This in itself will often transform a general infection into a local one. Fever is arrested and weight is gained. The question then arises, Can the patient get up? All clinical conditions being favorable the patient is allowed to get up, but is carefully controlled. Within a few days this patient may return to bed, suffering from an acute exacerbation or hemoptysis. Just here will be found a useful application of opsonic determination. Observation of clinical conditions with no special regard to the rectal temperature will not accurately foretell disaster. I believe a fluctuating index will. In a patient several times a victim of relapse who has avoided further trouble since a study of indices guided me, I found that his tuberele opsonic index at 10 a. m. in bed was .9; 11 a. m., having dressed and walked to office, 1; 7:30 p. m., 1. There being no change in his index, the equivalent of this amount of daily motion was allowed, and progress has been continuous.

In a patient recently considered cured of tuberculous septicemia, and who had suffered a relapse on being allowed to get up, opsonic observations were made. At 10 a. m., .9; patient allowed to get up, dress and take automobile ride; at 12 p. m., .8; at 6:30 p. m., .9. The temperature, which had been normal, rose at 3 p. m. to $99\frac{3}{5}$, but by night was again normal. There being no fluctuation in the index, the slight degree of fever was considered to have been brought about by the nervous excitement. This patient has been allowed the same daily liberty and has suffered no further relapses.

The question of studying and applying auto-inoculations has, as you know, been recently very thoroughly worked out in England by Patterson² and Inman.³ Thereby a turning point has probably been marked in the treatment of the tuberculous invalid, converting him into a useful worker instead of into a useless loafer, which latter seems to me to have been an end accomplished too often by most sanatorium work.

The beneficial results of many German and Swiss sanatoria have been, I take it, due to the skilful manipulation of empirical auto-inoculation. I noticed in Nordrach, in Davos, and at the Alland Sanatorium near Vienna that patients were made to take graded walks directly after

2. Patterson, M. S.: Graduated Labor in Pulmonary Tuberculosis.

3. Inman, A. C.: Effect of Exercise on Opsonic Index of Patients Suffering from Pulmonary Tuberculosis, *Lancet*, London, Jan. 25, 1908.

meals. I was puzzled to understand why this time of day was chosen, and it struck me that the reason must be that auto-inoculation might be less detrimental and more beneficial at such times. Naturally if the receptor cells are occupied in the absorption of nourishment, constitutional symptoms due to toxins are less likely to occur. I have myself observed a very small dose of tuberculin inoculated into a fasting patient to have caused a reaction, whereas the same dose given several times before, but following a meal, had never done so. The reason different degrees of negative phase following vaccine inoculations have been found by different workers may lie herein.

A homely instance of such toxic effect is the feeling resulting to the unaccustomed from smoking tobacco before breakfast. When Patterson and Inman recently read their papers before the Medical Society of London, Wright criticised the skilful use of auto-inoculations as being less under control than the exact method of inoculating tuberculin. According to my experience in arrested cases auto-inoculations fail after a certain period, unless ultra violent exercise be taken. When a patient arrives at this state, it is very necessary to use tuberculin if an ultimate cure is to be obtained.

I now wish to speak to you in regard to opsonins and the opsonic index in tuberculosis. Firstly, in regard to the term "opsonin." Bill, of Davos, recently wrote to me that he could find no reference to support Wright's translation of "opsono" into "convert into palatable pabulum." He claims that the stock use of the word refers to "purveying" and not to preparation of food. In looking up "opsonium" I have found it to mean a "relish," and a relish can certainly convert into palatable pabulum!

That phagocytosis is an important rôle in tuberculosis is denied by Theobald Smith,⁴ but asserted by Wright,⁵ Baldwin,⁶ Hektoen,⁷ and others. Opponents have suggested that, because the blood fluids in the neighborhood of tuberculous foci are often deficient in opsonin, opsonin is not a factor in the conquest of the tubercle bacillus. This deficiency is more than probably accounted for by the fact that the tubercle bacilli have disarmed the opsonin in their neighborhood. Analogy may be found in the spleen of typhoid patients, the serum from which is apt to have less agglutinating qualities than that possessed by the circulating blood. Also, bacteria prefer to live in areas of lessened bacteriotropic pressure.

A thorough study of phagocytosis in sputum with its occurrence in 80 per cent. of specimens⁸ reveals a picture only a little less than that obtained with the influenza or the gonococcus. If the Gram stain is applied to sputum even more phagocytosis may be observed than with

4. Smith, Theobald: Journal American Medical Association, April 28, 1906.

5. Wright, A. E.: Royal Society Proceedings, vol. 72-73.

6. Baldwin, E. R.: Mechanism of Resistance in Tuberculosis, before Philadelphia Pathological Society, May, 1906.

7. Hektoen, Ludvig: Journal American Medical Association, May 12, 1906.

8. Allen, A. H.: Phagocytosis, etc., in Sputum as a Measure of Resistance in Tuberculosis, Third Annual Meeting National Association for Study and Prevention of Tuberculosis.

the carbol fuchsin method, and in order to explain the reason of this I must here digress somewhat. In examining the contents of a tonsil excised from a perfectly healthy lad of healthy parentage I found with the carbol fuchsin methylene blue stain a few tubercle bacilli. Examining a slide of the same pus, smeared at the same moment, but stained by the Gram method, I found very large numbers of a Graming bacillus, but perhaps more granular and slender. It struck me as curious that these could not be observed even counter stained by the methylene blue in the first preparation. I was at a loss to interpret these slides until reading articles by Much⁹ concerning a form of the tubercle bacillus which was not acid fast. This writer proved the point fairly conclusively that the tubercle bacillus is frequently present and can be demonstrated by the Gram stain, when it can not by the carbol fuchsin method.

However, Klebs (E.) was the first as far back as 1904 to call attention to their presence in tuberculous foci, and especially laid stress on the importance of the tubercle bacillus being overlooked in organs or in expectoration because of the absence of acid-fast qualities. After a perusal of Much's articles, I began to wonder whether the tubercle bacillus develops its waxy capsule, if such term may be applied, as a defensive procedure, and whether the defensive machinery of the body deprived it of this waxy capsule in the efforts aimed at its destruction. If the latter were the case it might be illuminated by the method of the opsonic index, and the result might tend to throw some light on the inaccuracy of the tubercle opsonic index. First let me ask in what kind of bloods opsonic discrepancies are most marked. It is generally conceded that normal bloods in the large percentage of cases will agree. It is also beyond doubt to those daily engaged in this work that sub-normal bloods in absence of auto-inoculations are apt to be always sub-normal. It is in highly immune bloods that observers disagree. It was the case in the experiments of Wright soon to be mentioned.

In observing typhoid opsonins I have always failed to get an index much above normal with highly pathologic serum, although the same serum diluted 100 times would provoke marked phagocytosis, whereas normal serum diluted twice or thrice would lose all this power.

A series of disappointing indices following inoculations of tuberculin, similar to the following, has been a common occurrence with me in cases of tuberculous glands:

Miss A., aged 25. Tuberculous cervical glands three years; three operations. Two discharging sinuses.

	Opsonic index.
Before inoculation .....	.8
Koch's new T.R., 1/10000 milligrams.....	1.
Koch's new T.R., 1/5000 milligrams.....	—
Koch's new T.R., 1/3500 milligrams, four days later.....	.7
Koch's new T.R., 1/2500 milligrams, three days later.....	.95
Koch's new T.R., 1/1500 milligrams, four days later.....	.87
Koch's new T.R., 1/2000 milligrams, three days later.....	1.4
Koch's new T.R., 1/1500 milligrams, five days later.....	.75*
Koch's new T.R., 1/1500 milligrams, six days later .....	.48

* Has gained 7 pounds. Wounds all healed. Glands scarcely palpable.

9. Much: Über die nicht Säurefesten Formen des Kochschen Tuberkelbazillus; Beiträge zur Klinik der Tuberkulose, Würzburg, Band VII, Heft I und Heft IV.

Eight inoculations were given following these, and the index was never again found above .8 or .9, although improvement continued. No glands could be detected, apparently complete cure had resulted. It is important to note that only on one occasion was there a high reading of the index. Were the others then really low or only apparently low?

Mitchell of Denver, who worked in Wright's laboratory the past summer, told me that following the adverse criticism regarding the accuracy of the opsonic index in this country Wright undertook a series of experiments. About six men working in his laboratory were given a series of healthy and pathological sera, the work was done in a blind manner so that no worker knew which were normals and which pathological, and each had to work them out just as if they were in different cities. The results were very disappointing, the only redeeming feature being that all the subnormals and normals agreed. As to the highly pathologic sera, it was impossible to tell a negative from a positive phase from the results handed in, and the errors reached from 10 to 40 per cent.

Following up my observations on the pus from the tonsil I have above narrated, I decided to Gram, as well as to carbol fuchsin and decolorize, each series of opsonic observations, and I will read you some of the results:

		Per cent.		Per cent.	
		empty Gram.	Carbol leucoc. fuchsin.	empty leucoc.	
Case 1—Pulmonary tuber. with probable tuber. testis,					
tuber. o. i.	1.5	26	.7	36	
Case 2—Pulmonary tuberculosis, 6 days after inoc.	1.5	24	.9	26	
Case 3—Pulmonary tuberculosis, 5 days after inoc.	1.3	10	.9	16	
Case 4—Tubercle septicemia, 4 days after inoc.	1.1	15	1.1	16	
Case 5—Pulmonary tubercle, 10 days after inoc. ....	.9	2	.9	8	
Case 6—Pulmonary tubercle, 10 days after inoc.	1.3	No	.9	8	
Case 7—Pulmonary tubercle, 10 days after inoc. ....	.8	6	.9	6	
Case 8—Pulmonary tubercle, 10 days after inoc. ....	.9	4	1.1	6	
Case 9—Pulmonary tubercle, 5 days after inoc. ....	.1	6	.9	6	
Case 10—Pulmonary tubercle, 7 days after inoc.	1.0	2	1.0	4	
Case 11—Pulmonary tubercle, 10 days after inoc.	1.1	4	1.1	4	
Case 12—Pulmonary tubercle, 20 miles horseback					
ride day before .....	.6	14	.8	4	
Case 13—Pulmonary tubercle, 3 days after inoc.	1.2	No	.9	8	
Case 14—Pulmonary tubercle, 6 days after inoc. ....	.8	10	.1	4	
Case 15—Pulmonary tubercle, 10 days after inoc. ....	.6	10	.6	6	
Case 16—Pulmonary tubercle, 3 days after inoc.	1.1	8	.8	8	

These opsonic indices collected from three sets on three different days were worked out by the blind method, that is to say, the incubating and counting was done in absolute ignorance of which sera were normals and which were pathologic. You have probably noticed that almost without exception when the indices should be high on the third to fifth day after inoculation the carbol fuchsin method gave low indices, whereas the Gram gave high. With but one exception, the percentage of empty leucocytes in the low carbol fuchsin counts was greater than in the Gram. In the actual count of bacilli within the leucocytes the carbol fuchsin slides read higher. The explanation of this is no doubt due in part to the destruction of the red cells by the acetic acid in the former method, whereby the edges and prolongations of the leucocytes could be more easily seen than in the Gram method. The

erythrocytes take the Gram stain and are packed closely around the leucocytes. We found that if neutral red is used as a counter stain to the Gram the nuclei of the leucocytes are almost transparent, allowing the black bacilli to be seen through them. These observations if corroborated will show that the staining method in use for tubercle indices will have to be changed. The Gram stain is difficult to work with, and I would not be surprised that even this stain may omit certain bacilli both before and following opsonic action. We are by no means satisfied with the Gram stain as a stain capable of displaying all tubercle bacilli, and we are testing for a stain capable of demonstrating all or almost all the bacilli, whatever their stage of development or of destruction.

The reason observers in different quarters have been more satisfied with the accuracy of the opsonic index in tubercle work than others may be due to the fact that different strains of tubercle used as emulsions have had different degrees of resistance to lysin, to opsonin and leucocytic action in regard to staining qualities.

It has long been known¹⁰ that in young cultures there may be many tubercle bacilli which were not acid fast. Thinking this might be the case in my own emulsion, I made the following test, which I would suggest as a valuable one, not only for similar observations, but for ascertaining if opsonins alone can alter the coat of the tubercle bacillus. The emulsion was treated as a vaccine and mixed with blood for counting according to Wright's method. Two slides were simultaneously spread, one stained with carbol fuchsin and decolorized with 2.5 per cent. sulphuric acid and counter stained with methylene blue, the other stained by Gram method. The count came out nearly the same, the error being in favor of the carbol fuchsin.

The result of this test of the emulsion would, therefore, indicate that there were no non-acid fast bacilli present, but that the lytic opsonic and leucocytic action were alone responsible for the changes in the index above described. We have lately grown on Hesse's medium containing Heyden's Nährstoff an involution form of the tubercle bacillus which can not be stained by the carbol fuchsin method, but which on decoloration will take the methylene blue counterstain.

Is it the power or number of leucocytes that is most important? Or the power, and not necessarily the amount of opsonin, that is absent in blood unable to throw off disease? What is the application of the situation in the case of gonorrhea in which dead leucocytes are found crowded with gonococci, and yet the opsonic index to this organism is low?

The influenza bacillus may need no opsonin for its phagocytosis, and the examination of the influenza pus reveals a similar situation to that of the gonococcus pus. The picture in tuberculous sputum is but little less. Does the increased amount of opsonin which is said to be necessary to overcome bacteria necessitate an increase of lytic action before the leucocytes can digest their prey? Is opsonic action perhaps not largely lytic? The inoculation of gonococcus vaccine, producing a cure in such

11. Courmont : *Précis de Bactériologie*.

a case, would hardly be expected to strengthen the patient's leucocytes, and yet these now instead of dying are able to conquer and to digest the bacteria. No doubt in most opsonic work the digestive capabilities of the white blood corpuscles have been lost sight of and rarely considered, and even with full opsonic and lytic action some are still unable to destroy their prey after capturing it. Perhaps this failure is due to overloading.

Increase of opsonin and agglutinin can very easily be conceived to lead to an overloaded digestive power of a leucocyte causing a suicide from over-indulgence, for which analogies are not far to seek. The wisdom of considering nuclein administration as an adjunct to vaccine inoculation might not be amiss in many cases.

In the last few months 225 sputum examinations have been made, of which approximately over 75 per cent. contained tubercle bacilli. Each sputum was spread simultaneously on three slides, and one slide was stained by the carbol fuchsin methylene blue method, the next by the Gram, and the next by carbol thionin, as a routine measure. By means of these stains one gets very familiar with the mixed organisms in tuberculous sputa. One meets with the Friedländer, the colon, the pseudodiphtheria and the influenza bacilli. Rarely other forms of bacilli.

We have frequently observed granular bacilli morphologically in arrangement comparable to the tubercle bacillus, well stained by the Gram method. We have noticed, too, they often appeared more numerous on the Gram slides than on the carbol fuchsin slides. The carbol thionin stains the tubercle bacillus but indifferently. We use it especially for the detection of the influenza bacillus. In several examinations in which no tubercle bacilli were present by the carbol fuchsin method Graming rods were found on the Gram slides which an experienced eye could hardly fail to decide were tubercle bacilli. In but rare cases was the reverse of these observations true, that is to say, that tubercle bacilli were found in the carbol fuchsin slide and not in the Gram. These observations in conjunction with the above mentioned work would indicate that a negative examination of sputum for the tubercle bacillus by the present method can not be relied upon. The cause of these sputa findings is more than probably the same as the cause of the opsonic discrepancies.

Using the same method as in examining our emulsion for non-acid bacilli, a series of tests was made with two stains on tubercle bacilli which had been submitted to the action of serum at blood temperature. Normal serum and serum from a tuberculous patient five days after tuberculin inoculation were each mixed with equal parts of the above tested tubercle emulsion and incubated for five, ten, fifteen and twenty minutes. An equal volume of each admixture was then mixed with an equal volume of fresh healthy blood and the whole diluted with a small amount of normal salt solution. Two slides of each were spread and the resulting counts of the ratio between the standard red corpuscles and bacilli showed a progressive decrease in the number of bacilli on the carbol fuchsin slides and on the Gram slides with normal serum, whereas

with the pathologic serum the carbol fuchsin slides gave a gradual decrease in numbers and the Gram slides an increase.

It would seem therefore that the specific lytic action might have the effect of causing the Gram stain to show up bacilli it had previously failed to stain. Of chief importance, however, is the result that even after fifteen minutes—the period usually allowed for the tubercle opsonic reaction—we found a marked decrease in the numbers of bacilli by the carbol fuchsin stain in both normal and pathological sera, as a result of lytic influence.

All the Gram slides averaged fewer tubercle bacilli than were found on the carbol fuchsin slides, and this would indicate either that the Graming erythrocytes obscured many bacilli or that this stain is not able to demonstrate many normal bacilli, the latter being the view I am inclined to. These experiments carried further would suggest the possibility of being able to achieve a *lytic index*, by which to measure one of the protective substances elaborated, an index of much simpler technic than the opsonic, and of especial value in such disease as typhoid when the action of lysin is known to be exceedingly potent. Instead of blood, a constant emulsion of any organism such as staphylococci may be employed, as a gauge by which to control the numbers of bacteria submitted to bacteriolysis, and in some respects proves more satisfactory.

In regard to vaccines in tuberculosis, we have used almost entirely Koch's new tuberculin. The initial dose has never been greater than 1/10000 mg. and often as low as 1/100000 mg. A dose which has been shown to be able to produce a positive phase. Upward of 60 cases chiefly of pulmonary disease have been inoculated with gradually increasing doses up to not exceeding 1/800 of a mg. at intervals of from seven to ten days. In all cases preliminary observations have been made upon the opsonic index to eliminate the possibility of auto-inoculations. The index, however, has not been used as a guide to the time for inoculation, but only as a test to ascertain if the inoculation has produced the required effect. The general level of opsonins has been raised, and our results, though not numerous, are in accordance with those of the Agnes Memorial Sanatorium of Denver, which I am allowed through the kindness of Dr. Holden and Dr. Steiner of that institution to give to you. "From 212 indices taken before tuberculin inoculation, we find the average index of .85. From 425 indices taken after tuberculin inoculations we find the average index to be 1.07. These observations were made on 85 cases over an average period of 143 days. In the majority of instances the initial dose was 1/5000 mg. and the maximum dose 1/200 mg."

Dr. Holden tells me he has been more than pleased with the results that have been obtained showing a distinct gain over former results, which combined climatic and sanatorium treatment, without tuberculin inoculation. Improved clinical evidence has, on the whole, coincided with increased opsonic power.

Our own results from inoculation of Koch's new tuberculin have been most favorable. We have seen no bad effects in any case. At the present time it would not be possible to report on the percentage of cures or ar-

rests. Neither has sufficient time elapsed to report continued good health being a sequel. Several moderately advanced cases have been apparently cured. Many seem to have been arrested from an active condition which rest and climate alone could not achieve. Febrile cases have been rendered afebrile, and in some of these it has been a somewhat common observation to see the temperature begin to ascend when the subsequent dose was due and to immediately disappear on inoculation.

Especially when tuberculin has been combined with mixed vaccine, marked alleviation of the cough and of expectoration has been a common result. In a few cases we have employed individual tuberculins, and such I can not but consider may be found best for those cases from which they can be prepared, on account of different strains met with. Later I shall hope to report these cases. Meanwhile I will just remark that we have so far encountered no cold abscesses from the inoculation of the small doses of these individual tuberculin vaccines prepared similarly to other vaccines.

A natural outcome of Wright's exploitation of bacterial vaccines is the application of their use to the concomitant or mixed infections of pulmonary and other forms of tuberculosis. To attempt the cure of cases complicated by secondary infections, by means of tuberculin alone, trusting that the organism will rid itself of these secondary invaders, is hardly rational.

"While the suggestion that mixed infections must be expected in the common suppurative processes which occur in connection with surfaces which harbor microbes, may be universally acceptable as not breaking in on any accepted ideas, the suggestion that mixed infection must perforce be considered in every case of phthisis, lupus, tubercular caries, tubercular cystitis and tubercular ulceration, in the very nature of things, will be unacceptable to many clinicians. Such a suggestion will be felt to throw doubt not only on the clearness of vision of those who have sought for anti-tuberculous remedies in these diseases, but also on the critical acumen of those who, without taking into account the fallacies which are incidental to clinical methods, have confidently undertaken to pass final judgment on anti-tuberculous remedies by the observation of their clinical effects in cases in which, in addition to the tubercle bacillus, other pathogenic microbes may have been at work. Be it acceptable or unacceptable, there is no escape from the fact that practically every case of suppurating lupus is complicated by staphylococcus infection. What holds true of lupus, *mutatis mutandis* is true of every tuberculous affection to which microbes can find access."

It is perhaps a fact that many of these secondary organisms are of low vitality and non-virulent; it is just as impossible for such patients to rid themselves of these as of local infections, such as acne, furunculosis, both such frequent afflictions of the tuberculous. The suggestion has been made that the influenza organism is probably the means of introducing the pneumococcus to a patient the victim of pulmonary tuberculosis, and it is perhaps true, yet my own observations would seem to show that the influenza bacillus alone is capable of much mischief in the

tuberculous invalid. An attempt was, therefore, made during the past epidemic to produce some immunity to this organism by adding a potent influenza vaccine to the weekly inoculations of patients. The results, which will be published in another place, have given much promise.

To those who have watched the almost miraculous disappearance of boils following the inoculation of an homologous staphylococcus vaccine, and who have also seen a pneumococcus pus pouring from an ear disappear entirely in a few days through the exploitation of the appropriate vaccine, it will cause no surprise to learn that comparatively similar results have been obtained in the reduction of sputum of consumptives by the application of similar methods. Vaccines have been made from pure cultures derived from patients' sputa, according to the technic of Wright, and inoculations have been given at intervals of from five to ten days. The doses in all cases have been small to begin with, usually about 20,000,000 of any vaccine, and the amount has been increased to rarely more than 150,000,000. The time of day preferred has been within an hour or two after meals when the receptor cells have presumably been occupied in the absorption of nourishment and constitutional symptoms are at such times less likely to follow.

To ascertain if leucocytes had a preferential appetite for one organism more than for another an experiment was undertaken with the blood of a patient suffering from a mixed infection of tubercle and staphylococcus and who received inoculations for both. The opsonic index to each organism was found to be 1.2. The tubercle and staphylococcus emulsions were then mixed and the opsonic indices again taken, the mixed organisms found in the leucocytes were counted and the index to tubercle found to be 1.1 and that to staphylococcus 1.2. These results practically identical were confirmed by a second experiment with another patient. It would therefore seem that given sufficient opsonin the white blood corpuscle is impartial in his selection of foes. All patients with chronic pulmonary tuberculosis with an arrested condition have been found to have low opsonic indices to the tubercle bacillus as well as to their secondary organisms. The condition of such a patient is best described by comparing him to a country mastered by the armed occupation of mixed hosts.

A FEW ILLUSTRATIVE CASES OF DIFFERENT TYPES OF MIXED INFECTIONS.

Miss B., age 26. Sent to Colorado Springs, November, 1906, for catarrhal phthisis. Infiltration and sticky râles at apices of both lungs, scarcely any cough, no expectoration, gradual gain in health till February, 1907, attack of influenza, followed by cough and purulent expectoration, with coarse râles at both apices.

Sputum.—No tubercle bacilli; pneumococci and staphylococci, the former found frequently in the pus cells. The sputum was planted out and pneumococcus and staphylococcus colonies grew, the former outnumbering the latter. Vaccines were made, as the patient showed, after several weeks, no ability to conquer her cough.

March 10. Inoculation of 20,000,000 of pneumococcus vaccine, sputum increased in amount for several days, followed by decreased amount.

March 16. Inoculation of 30,000,000 of pneumococcus vaccine, bronchial wheezing, which had been annoying patient, all disappeared following this dose; no expectoration for several days.

April 1. Râles at both apices now again of the sticky character; three more

inoculations were given with the addition of some staphylococcus vaccine and small doses of Koch's new tuberculin.

October, 1907. Patient still without cough or expectoration. Sticky râles persist at each apex. Opsonic index to tubercle persistently low; inoculation of Koch's new tuberculin started as climatic help has not produced a complete cure.

This case would seem to illustrate the theory of some that the influenza bacillus is necessary for the introduction of the pneumococcus.

Case 2.—May, 1907. Mr. G., age 40. Pulmonary tuberculosis five years; cavity in each lung. For some months past suffering from persistent fever following influenza, accompanied by excessive expectoration, sputum measured six ounces. Extensive sycosis (staphylococcus) of mustache and hair in nostrils, of several years chronicity.

Sputum Examination.—Tubercle bacilli, streptopneumococci and staphylococci present, some phagocytosis of all. Cultures were made and colonies of the latter, staphylococcus aureus by far predominated. Inoculation of a staphylococcus vaccine increased temporarily the amount of sputum, soon to be followed by a decrease to less than 2 ounces. The sycosis which was assisted by epilation (former epilation had failed to cure) rapidly disappeared, as also did the patient's fever. A gain in weight of over thirty pounds was made, and a bed-ridden patient was restored to comparatively good health.

Case 3.—January, 1907. Pulmonary tuberculosis, eight years. Cavity in left apex. Profuse expectoration for six years, amount of sputum daily four ounces.

Sputum Examination.—Tubercle bacilli, diplococci, staphylococci, some phagocytosis of all shown by examination of pus cells.

Culture of Sputum.—Few colonies of a pneumostreptococcus. Enormous numbers of staphylococcus aureus colonies. Vaccine made of latter. Following the first few inoculations the sputum was reduced to bare a half ounce, a clearing out of her cavity at night, necessitated by lying down, was completely stopped, and for the first time in eight years patient was able to lie down and sleep through the whole night undisturbed by coughing.

October, 1907. With the exception of an exacerbation lasting a few days this summer, the same improvement continues.

The impression has been gained that the "bronchorrhœa" type of cases has perhaps received less benefit connected with the reduction of sputum than the "cavernous" type, and a possible explanation may perhaps be found in the results of inoculations of staphylococcus vaccines for acne and boils. Owing to the difference in the access of blood to the skin surface and to the subcutaneous tissues the boils have been found much more amenable to increased opsonic lymph than the acne spots. A lasting immunity must not be expected from inoculations of these vaccines, just as a lasting and permanent immunity to the tubercle bacillus is unattainable by any tuberculin administration. After the apparent maximum results have been obtained, most patients have been kept in touch by inoculations at intervals of a few weeks.

In conclusion the author would put forth the earnest plea that these potent remedies be used early, while the machinery of immunization is yet unworn, that they be added to the tuberculin treatment, so well advocated by Trudeau and Wright, and then will the ranks of the advanced tuberculous be lessened.

The writer wishes to express his sincere thanks to Drs. G. W. Morse and W. W. Williams; and to Messrs. Hedblom, Lieb and Smillie of Colorado College for their painstaking laboratory work.

THE PRESENT STATUS OF THE TREATMENT OF TUBERCULOSIS IN ILLINOIS.*

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If I should confine myself strictly to the topic assigned me there would be but little to say. Since the treatment of tuberculosis comprehends more than the care of the individual patient, I take the liberty of enlarging somewhat upon my subject by giving a brief résumé of the work along tuberculosis lines thus far attempted and accomplished in this state.

Up to four years ago practically nothing had been done in this state either for the prevention or cure of tuberculosis. A few medical men had discussed the subject before medical societies, but no organized movement which had for its object the union of all the social forces had been attempted. In 1904 the Illinois State Medical Society took the first active steps toward the inauguration of a crusade against tuberculosis. As a part of the very comprehensive plan which was adopted, a symposium on tuberculosis was arranged covering in a general way every feature of the problem and in popular language. This symposium was presented by some of the ablest men in the medical profession. The co-operation of the press was invited, which was promptly responded to by the publication of the symposium, either in whole or in part. As a result the attention of the people of the state was simultaneously called to the necessity for action and an organized movement begun. A committee representing the state medical society was appointed with power to act. At their suggestion the State Society for the Prevention of Tuberculosis was organized. This organization included many representative men in and out of the profession. They succeeded in carrying on the work with considerable activity for a year or two, since which time for some unaccountable reason their labors have ceased. However, the work done by this organization was valuable and has led to the formation of other organizations which have and still are doing most excellent work. The Chicago Tuberculosis Institute has really taken over the work of the State Society for the Prevention of Tuberculosis and is probably in a better position to carry it on at present than an organization representing the whole state.

The educational forces which have been at work have largely been confined to the medical profession in the way of medical society work and popular lectures by medical men. Several local anti-tuberculosis societies have been organized and some of them are doing efficient work. The National Tuberculosis Exhibit was brought to this city soon after it was organized. The influence of that exhibit was very great and gave the movement in this state a decided impetus. The assistance of the press has been invaluable. The information published has emanated from medical sources and for the most part has been exceedingly reliable.

* Read before the Chicago Medical Society, Feb. 26, 1908.

The Chicago Tuberculosis Institute is the largest, most comprehensive and influential of any single organization in the state, and has charge of all the work in Chicago not under the official control of the city health department. The executive officer of this society is Mr. Alex. M. Wilson, who is a trained sociologist, a gentleman of great executive ability and who comes to the metropolis of the west fresh from victorious achievements in the city of Boston, where he brought order out of chaos and placed the work in that city on a better footing than any other in the United States. We expect him to accomplish much for Chicago, and fully expect his influence will not be confined to this city alone but extend throughout the state. He is already actively co-operating with all other organizations in the state. This society, in addition to its work of collecting statistics on the manifold phases of tuberculosis, has recently established six dispensaries which are well distributed throughout the city. This work is too recent to make it possible to give statistical information of much value.

The Visiting Nurses' Association of Chicago, under the direction of Miss Harriet Fulmer, was one of the first organizations to do practical work among the tuberculous poor. This was the only organization for many years in this city giving individual care to tuberculous cases. The work of this organization has been to locate tuberculous patients, render such assistance as possible in making them comfortable, and especially prevent the spread of infection. The real value of their work is in instructing and supervising patients in their homes. During the last year 1,148 cases received an average of three or four visits a week. Nine hundred of these were in the advanced stage and were a prolific source of infection which would have been at least 50 per cent. greater had they not been under the supervision of this organization. During the year they gave out 20,000 sputum cups and paper napkins, disinfected the bedding, clothing and premises and cleaned up each one of the 1,148 homes which they have visited and prevented infection in 5,000 others. The very thorough and systematic work of this splendid organization of splendid women, under the direction of Miss Fulmer, remarkable for her leadership, is a record which would be creditable to any organization with much larger resources. When we take into account the fact that these women undertook this work at a time when it seemed a hopeless undertaking our appreciation is increased. Two years ago last summer they established a tent colony at Glencoe, Ill., which was conducted for the summer months. As a result of this humble effort they succeeded in attracting sufficient attention to result in the establishment of the Edward Sanatorium at Naperville, which now has accommodations for about thirty patients and will soon be enlarged to 100. This splendid institution is a donation of Mrs. Keith Spaulding of this city.

The State Board of Health has also done excellent work. I quote from a letter received from Dr. J. A. Egan, secretary, which was written in response to my inquiry as to the work of the board. He says, referring to the circular on consumption published by that board: "We have distributed about 150,000 copies of this circular since 1904. We intend to

have published 100,000 copies of the present edition at once and distribute them as rapidly as possible. It is our intention first to send the circular to the students of the state university—some 4,000—and then to the 27,000 school teachers in the state. Then, of course, we will cover all the physicians of the state. The *Bulletin* is sent to about 6,000. As regards the laboratory, will say that we have stations for containers in 200 cities of the state. Up to within the past month we had 100 stations, but the number has been increased during the last thirty days. These stations are all supplied with containers for the transmission of specimens. During the past year the laboratory has examined 2,300 specimens in cases of suspected tuberculosis. It is our intention to distribute 100,000 copies of our recently revised circular as rapidly as possible. After covering the medical students, school teachers and physicians, we will probably avail ourselves of society and organization lists, and also the telephone directories, to distribute the other 40,000. We hope to get those circulars in the hands of persons having consumption, and to this end we intend to write to every one of the 10,000 physicians of the state, asking them to either place a copy of the circular in every family in which there may be a consumptive patient or to give the names of the families afflicted and permit us to distribute them."

Several of the state charitable institutions, notably the insane hospitals, have been doing most excellent work; especially the Illinois General Hospital for the Insane at Bartonville, and the Western Hospital for the Insane at Watertown. Dr. Zeller's letter is so clear and comprehensive that I take the liberty of quoting in full:

"I have the honor to acknowledge your recent request for information concerning the part played by this institution in the crusade against tuberculosis. I will say that the limited segregation of consumptives struck me from the outset as an inexcusable institutional omission. It had become the accepted practice that the consumptive be allowed to remain in his cottage from the incipency to the fatal termination of the disease, or if removed to the hospital ward his isolation consisted of nothing more than a single room and such prophylaxis as was possible under these conditions. With the greater liberality in the treatment of the insane there came a realization that the outdoor treatment could apply to them in part, and in the summer of 1905 I enclosed a large porch of one of the cottages with canvas and placed 6 patients in it. This porch colony formed the nucleus of our present extensive tent colony. I attended the Chicago Tuberculosis Exhibit in 1905 and later was present at the formal dedication of the Ottawa Tent Colony and heard the able addresses of Drs. Billings, Moyer and others. I came home fully possessed with the idea that practically all of the measures advocated could be applied to the insane. My 6 patients spent the winter in their porch colony without incident. None died and there was no serious attempt to escape. All showed decided evidences of improvement. In the summer of 1906 I attached one large Humphrey and five La Pointe tents to the woman's hospital and 16 women spent the entire winter

there. At the same time I built a canvas annex to the mens' hospital and placed ten men in it, abandoning my porch colony. My experience was so satisfactory that early in 1907 I decided to combine all the tents into one colony, and we now have twenty-one tents, with dining-room, diet kitchen, nurses' office, two solaria, dressing and clothes room and sleeping tents for 48 patients—24 of each sex. I am now building an entirely new colony that will accommodate 56 men, and when completed will devote the other colony entirely to women. This will give me room for 104 consumptives, or 5 per cent. of our total population. This will be small enough when we consider that we have in our care 2,000 incurables who have spent from one to forty years in asylums or almshouses. Our experience has been a revelation. Not only have these people improved in mentality and habit by reason of their open-air life, but the disease has been arrested in most instances and about 25 per cent. have improved sufficiently to warrant their return to the cottages. Most of the patients originally placed in the colony are still alive. An appended table of weights may interest you. The colony is in charge of an assistant physician who has no other duties than the care of these 48 people and the consequent laboratory work. Every case is diagnosed microscopically and the opsonic index is followed where serum therapy is administered. A menu, based on actual calorie value, is prescribed and carefully adhered to and all patients are weighed once a week. A graduate dietist prepares all of the food consumed in the institution, and that sent to the tent colony consists of every approved article of diet for consumptives and is administered at frequent intervals. Seven nurses and attendants are in charge of the colony in relays of eight hours each. When volunteers were called for many more than were needed responded for duty on the colony and an assignment there is accepted as readily as on any ward of the institution. This institution cost more than \$1,000,000 and consists of twenty-six brick and stone buildings, yet none attracts more favorable attention or is doing greater good than the plain group of inexpensive tents wherein our consumptives are being housed and treated."

Dr. W. E. Taylor, superintendent of Western Hospital for the Insane, in response to my request for information with regard to his work, says: "In reply to your favor of recent date regarding our tent colony, I will say that the open-air treatment for tubercular cases at this institution has given results far beyond my expectations. . . . Most of our cases, if treated in the early stages, are cured and a large per cent. of the more advanced ones are greatly benefited. . . . In this institution I find that even demented cases sleep better and recover faster if they sleep in a very cold room than they do if in a warm room, and during the past few years, except during the cold winter weather, we keep a large number of our patients in a camp, permitting them to sleep in tents, and the improvement in most cases has been marvelous. . . . We have approximately 20 women and 16 men suffering with tuberculosis. Those who can be trusted sleep in tents, and those who can not, sleep on a screened porch. I believe that insane as well as others affected

with tuberculosis should sleep in the open air both summer and winter, and for the past two years we have adhered strictly to that policy."

While none of the other state charitable institutions, so far as I know, have made special provision for the segregation of tuberculous cases, several are making active preparations to do so. The agitation growing out of the publicity as to the insanitary conditions at the Joliet penitentiary, which has led to the terrible mortality from tuberculosis in that institution, has attracted the attention of the state legislature sufficiently to lead to steps being taken for its removal to a more healthful location and the construction of a prison with a view to improving the sanitary condition of the prisoners.

The provisions thus far made for the actual treatment of tuberculous cases in this state are exceedingly meager. Aside from the tuberculosis hospital at Dunning, which under present conditions is simply a refuge for the dying patient, and St. Ann's Hospital conducted by the Sisters of Charity in this city, there is no provision for the thousands of poor in the city of Chicago. The accommodations at Naperville, which is a semi-charitable institution, are at present limited to thirty beds, but will soon be increased to 100. There are two private sanatoria in the state. The Buffalo Rock Sanatorium under homeopathic auspices. This institution is in process of building, but not yet ready for the reception of patients. The Ottawa Tent Colony has been in operation for three years and a half and has accommodations for sixty patients. This is the very meager accommodations for the 25,000 tuberculous invalids in the state.

It is hoped and expected that the law recently enacted providing for local sanatoria will lead to a more liberal provision for the helpless and those of small means. There is no longer any question as to the curability of tuberculosis under proper conditions and within reasonable limitations, and that climate is not an important factor. Results at the Edward Sanatorium and at the Ottawa Tent Colony have been just as satisfactory as the treatment of the same number of cases anywhere else, under like conditions as to the stage of the disease and the time under treatment. The large number of failures here and elsewhere are not due to climatic conditions but the failure to appreciate the time element in the treatment and the necessity for early diagnosis. These conditions are not local and are met by sanatorium workers, at least all over this country. Conditions are somewhat better in Europe, especially in Germany.

While this report apparently shows but little done, it must be borne in mind that the time necessary to organize a state having a population of 5,000,000 and including a large city like Chicago is much more difficult than in one having a less population and no large and unwieldy cities. We are behind sister states in the erection of state sanatoria. I am not quite sure, however, but that the delay is advantageous. It is a serious question whether or not it is advisable for the state to assume this responsibility. The unit of representation should be less, and for this reason as well as some others I believe the Glackin law providing

for local sanatoria will come nearer proving a solution of what under any circumstances is a very complex and burdensome proposition.

Then, too, we are just passing from an era of massive and unnecessarily expensive buildings to a more simple, rational and inexpensive method of housing this class of invalids. Even if the state should decide in the future to build sanatoria it is reasonable to suppose that in the light of subsequent events a given sum of money will be made to accomplish more than if we had secured an appropriation when attempted two and four years ago. The principles of the modern treatment of tuberculosis are very definitely settled. As to methods of application, we are in rather a chaotic state and our views are rapidly changing. This, too, for the better; therefore, it will be wise for us to make haste slowly.

In conclusion permit me to say that there is nothing discouraging in the situation in this state. On the contrary, much cause for congratulation. What is being done is well done. We may seem to lack the enthusiasm which characterizes the work in some other states. We must keep in mind, however, that enthusiasm is not efficiency. We need wise guidance quite as much as stimulation. We can confidently count upon the necessary enthusiasm to carry on our work when our plans are sufficiently perfected to appeal to the business and professional sense of our people. The activity which is being shown in the co-operation of societies, the intelligent interest of the great army of organized labor, the awakening sense of responsibility in employers, which is now manifesting itself, are all pledges of the ultimate success of the present crusade against the "great white plague." The International Tuberculosis Congress which will be held next fall in Washington will be the greatest health congress ever held. This state is already taking active steps to be properly represented and to assist in making that great congress a success. My prediction is that the influence of that great body of intelligent workers, representing every civilized country on the globe, will stimulate a wave of enthusiasm and well directed energy such as never has been witnessed in the history of the world.

In this anti-tuberculosis movement the medical profession has as never before discovered its true relations to the public. It has made medical evangelists out of a large and increasingly larger number of doctors. We are really doctors—teachers—as well as physicians. Hundreds of public lectures are being delivered by medical men who three or four years ago would have even doubted the propriety of addressing a lay audience on a medical topic. This work has been exceedingly profitable to the public, and more profitable to the profession, for the reason that it has broken down our traditional reserve and brought into play new energies which will be brought to bear not alone on tuberculosis but on the larger question of public health in general. While the tuberculosis problem is social rather than medical, doctors must lead and largely direct the movement. In doing this we are not only enlarging the field of our usefulness but are drawing the people to us in a way that will ultimately accrue to our material and professional advantage.

The results of the work of the past four years in Illinois are, all things considered, highly creditable to our profession, and every one of the many physicians who have assisted deserves the approval of his state, his profession and of his own heart.

GENERAL ASPECTS OF PSYCHOTHERAPY.*

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CHICAGO.

Long before modern medicine was born, psychotherapy had already accomplished wonders. When scientific medicine did arrive, mental therapy had to change its garb and was even ostracised for a time. To-day it is firmly established upon a solid foundation, and in my opinion not until human beings cease to have minds will mental treatment be displaced from its well-earned position.

Every physician, be he a country practitioner or a fashionable city doctor, practices mental medicine, and this regardless of whether he prescribes high dilutions, nasty mixtures, hydrotherapy, massage, electricity, or only gives his patient a ten-minute chat at \$1.00 per minute. The stronger the physician himself is convinced of the efficacy of his treatment, the more effective as a rule are his remedies. Often it is not medicine that the patient needs, but rather a good dose of "doctor," as one of my friends expressed it. In short, the physician's personality may count for more than his prescription. This fact seems to be well known even to the medical student who in the latter part of his course begins to prepare himself for practice by raising a crop of hair on his chin. After he has left the medical school you may find him, if he is sensible, with full beard, silk hat, long coat, a professional smile and smooth vocabulary, sitting in a well-equipped office containing more instruments and electrical appliances than he can possibly use in the coming ten or more years of his practice. If perchance he thinks you are a patient, he will admit you with a most self-possessed and confidence-inspiring manner, which seems to say: "I am ready for any emergency, from a toothache to a gastroenterostomy; have no fear to entrust yourself to me, sir!" Why does this country-bred boy so change his dress, manner and even his speech? Because he wishes to make a mental impression on his patient, or, for short, he practices psychotherapy. And though the practice is as old as the world, the theory of it, that is, the conscious recognition of its phenomena, conditions, causes, prevalence and importance in medical practice is comparatively new.

Some men are born psychotherapeutists and consequently there is no need for such to learn the art. Their mere entrance into the sick-room brings light, life and hope. Emerson probably had an individual of this type in view when he wrote: "It costs a beautiful person no exertion to

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paint her image on our eyes, yet how splendid is that benefit! It costs no more for a wise soul to convey his quality to other men. And everyone can do his best thing easiest. He is great who is what he is from nature and who never reminds us of others. But he must be related to us, and our life receive from him some promise or explanation. I can not tell what I would know, but I have observed there are persons who, in their character and actions, answer questions which I have not skill to put."

While but few are fortunate to inherit a great personality, many can acquire the outward signs and characteristics of greatness. The theme of conscious and well-directed psychotherapy in its present aspect has already been before the profession many years, yet we have allowed quacks and healers to grasp the essentials and to apply them in practice, while we supinely revenge ourselves by calling them "humbugs." That there are still those among us who persistently refuse recognition to mental methods in treatment is a sad commentary upon the human understanding. Nothing would seem more self-evident than that psychotherapy is part of general therapy and belongs exclusively to the domain of the legitimate practitioner, and yet we have in our ranks men who have sunk to the level of "apologists" and lackeys of "religious" healers. Evidently it is easier—but in my opinion far less dignified—to send a patient to a clergyman for treatment than to master the principles of psychotherapy and how to apply them. These men not only lay bare their own weakness, but they mistake personal incompetence for that of the entire profession, by ignoring the fact that there are many physicians who practice mental in conjunction with other forms of therapy.

What is psychotherapy? In a general way it signifies the use of any means whatever for the purpose of so affecting a patient's mentality as to produce amelioration or removal of symptoms. The effects are never produced by chemical or mechanical agents, although the latter may serve as convenient vehicles. One great distinction between psychic and drug treatment is that the latter often exerts its effects upon metabolism without the patient's co-operation and sometimes even against his will or expectations; the former always presupposes the patient's active or passive participation in altering his mode of thought in the direction of cure.

There are two principal methods by which patients are psychically influenced for purposes of treatment:

1. By calling into service more or less mysterious agencies, that is, by altering the patient's consciousness and making him an obedient tool of the physician's will.

2. Subsequent to a correct analysis of the symptoms the physician endeavors by methodic instruction and persuasion to strengthen the patient's will and his powers of resistance in order to enable him to direct his thoughts into healthy channels, thereby producing beneficial results.

The first-mentioned method, until recently the more popular and better known, is the so-called treatment by suggestion. The Century Dictionary defines suggestion thus: "The insinuation of a belief or impulse into the mind of a subject by any means, as by words or gestures, usually by emphatic declaration." Not every influence exerted by one

man upon another is suggestion, but only when an individual accepts an idea without adequate physiological excitation which he then transforms into an act, idea or sensation.

According to Forel, "suggestion is the production of a dynamic change in the nervous system of an individual by arousing in his mind the idea that such change is either taking place, has already occurred or is about to be realized. Verbal suggestion is the process by which ideas are implanted into the mind through words. Suggestibility is that quality of mind which enables one to accept suggestions. It is generally understood that most people are suggestible: some can be influenced in the waking state and others must be placed into the state of passivity called hypnotism before they can accept suggestions. Hypnotism itself is considered suggestion carried to the extreme. It is beyond the scope of this paper to discuss the technic and practical application of hypnotism. Many excellent books have been written on the subject and the practice can be easily acquired by any one who wishes. Besides, psychotherapists have of late learned to rely almost exclusively upon suggestion and persuasion in the waking state, and consequently hypnotism is being gradually relegated into the background. In speaking of suggestion it must be stated that an individual may consciously or unconsciously produce suggestions within himself without the aid of another person, in which case he is the subject of autosuggestions. There are beneficial and harmful suggestions and autosuggestions. Suggestions influence a person's acts intuitively, blindly, not by arguments. Indeed reason normally offers an effective barrier against unhealthy suggestions, which latter may not inaptly be compared to toxins generated either within (autosuggestions) or without the body (heterosuggestions), while reason itself is built on the basis of firmly organized brain automatons and may be compared either to phagocytes or body-protectors. Proper counter-suggestions may be likened to antitoxins or vaccines which, when introduced into the mind, neutralize the effects of unhealthy suggestions, gradually permitting reason to again assume full control.

Suggestive treatment is administered in several ways: Of the physician's personality I have already spoken. But more than this, his statements to the patient must tend to assuage fear and ought never to admit of doubtful interpretation. Every word is to convey to the patient a hope or promise of cure. If medicines are prescribed they must not be given to the patient as one would give them to a horse, but positive assurance or relief should always accompany them. Not all individuals will need the same amount of medicine, nor will all need the same quantity of suggestion. "One must learn to distinguish those who need an ounce of medicine and a grain of wisdom from those who require an ounce of wisdom and a grain of medicine," as Schofield so aptly puts it. Dr. Weir Mitchell correctly points out that "the doctor who gives much medicine and many medicines, who is continually changing them, and who does not insist with care on knowing all about the patient's habits as to

diet, meal times, sleep, modes of work, and hours of recreation, is, on the whole, one to be avoided." One rule in mental therapeutics never to be forgotten is that the cure of the sick body or exhausted nerves must precede the cure of the sick mind; in other words, the physical must precede the psychical.

After having thoroughly penetrated the patient's mental machinery one will not be at a loss for proper suggestions. Furthermore, it is as difficult to give special rules for mental therapy as it is to mention specifics for physical disease. Although we are still without a mental opsonic index we can learn, with a little effort, to supplant unhealthy with healthy ideas.

I have now reached the second and, in my opinion, the most important part of our subject, namely, *psychotherapy by educational means*. This method consists in giving the patient a logical and truthful explanation of his symptoms and how they originated; it teaches him to adopt such measures as will strengthen his will. It is needless to state that children and those who have the minds of children are not subjects for such treatment. Appeals to reason, explanations of right living and thinking are the principal weapons used. One successful effort is utilized as a stimulus to still greater efforts. The patient is spurred on to do his best, not by force from without, but by the exercise of powers from within; in other words, he is induced to act as a free being and not as a puppet in the hands of an operator. This is truly educational treatment, for according to Emerson: "Man is endogenous and education is unfolding. The aid we have from others is mechanical, compared with the discoveries of nature in us. What is thus learned is delightful in the doing, and the effect remains. Right ethics are central and go from within outwards. Gift is contrary to the law of the universe." Attention and interest must be aroused in the patient, just as in the student, not by constant admonition to be good, but by primarily furnishing examples for imitation. If he lives in a faulty environment, this must be changed, or all effort will be in vain. Good companions, preferably of the same age as the patient, will exert a greater influence on him than all the preaching in the world. Let us again quote the New England sage, who says: "We are all wise in capacity, though so few in energy. There needs but one wise man in a company, and all are wise, so rapid is contagion. Even normally we can not escape our environments, our class, our city. There are vices and follies incident to whole populations and ages. Men resemble their contemporaries even more than their progenitors. It is observed in old couples, or in persons who have been housemates for a course of years, that they grow alike, and if they should live long enough we should not be able to know them apart." It is within the knowledge of all that the contact of nervous patients with each other has a tendency to multiply symptoms in them. The worst company for a nervous daughter is her neurotic mother. Perhaps the greatest benefit from the Weir Mitchell rest cure, which enforces isolation from friends and relatives and compels association with a strange,

sensible nurse, is through the necessary change of environment. There are many ways of changing environment besides sending to a sanitarium.

Next to the careful selection of proper associates comes a wise choice of your patient's daily reading. Only books and magazines that are stimulating, refreshing and overflowing with optimism should be recommended to the patient, while all yellow journals, the chroniclers of crime and monstrosity, should be banished from his sight. No less important is the inculcation of the idea of methodic work suitable to the individual's temperament. Work is the most powerful weapon we have against the habit of introspection, which latter is usually the result of indolence. Many a woman who for months has not raised a finger in her household suddenly discovers that she can do without help after the physician has explained to her that regular exercise strengthens the organism. We have ceased to send every nervous woman to bed, ostensibly to take the rest cure, but really to fill her mind with all sort of phobias. Instead we order the so-called work cure. And not only do we aim to occupy their bodies, but we also plan to arouse their slumbering intellects. We appeal to their moral sense and arouse their interest in charity and settlement work. "Serving others is serving us," is a good text for preachment. I once heard a liberal clergyman in this city say to the women of his church, "When you do charity you receive infinitely more than you give." This statement strikes me as especially applicable to the indolent neurotic, whose empty life is often through charitable work converted into one of absorbing activities. These are only a few of the things in which patients can become interested. There are many others that will readily suggest themselves to the thinking physician.

Now some of my friends will contend that the methods as outlined may very properly be advised, but will the patient agree to follow them? My answer is that the educational methods of psychic treatment do not differ radically from other educational lines, in which we have to resort to the various motives governing human actions; among these are rewards, threats, punishment, even flattery.

Reward may take the form of granting a patient's request, provided he complies with your conditions. The hope of reward exercises an immense influence not only upon children, but also upon adults.

Threats are occasionally necessary. The patient is merely warned that certain privileges will be curtailed if your directions are not followed.

Punishment may become necessary, but it should never appear in the form of revenge, otherwise resentment will follow. I imagine that the old-time treatment of hysteria by *asafetida* and *valerianates* was a kind of punishment; and it must be admitted that it often did abbreviate hysterical attacks. But there are better methods than the administration of malodorous medicines. For instance, a sensitive patient who has always received courteous treatment from her physician will be set to thinking when he administers a rebuke by a short, gruff greeting or by studied indifference.

In still other cases a joke or a bit of flattery will arouse a patient's latent energies. Tell a certain indolent person who is averse to taking the prescribed walk: "In my opinion you belong to the active, energetic type; walking will be mere child's play for you!" and he will run, not walk. We must always inspire our patients with hope of recovery; sometimes it is well to relate similar cases in which we accomplished cures. At no time should we drop any hint which the patient may interpret as an unfavorable prognosis, nor should we pay undue attention to his local complaints which we know to be only subjective. Occasionally a remark made to a tattling nurse or friend will produce results when a direct statement to the patient may fall on barren soil.

Seeing how necessary it is for the physician to study the various paths to his patient's mind and the most advantageous points of attack, I can not comprehend how Dr. Cabot, of Boston, can censure frequent contact of physician and patient. We will again let his distinguished townsman, Emerson, answer him: "Talk much with any man of vigorous mind, and we acquire very fast the habit of looking at things in the same light, and on each occurrence we anticipate his thought." Personally I think repeated conversations with sane doctors, that is, with those who do not learn their psychotherapy from Christian Scientists, Christian Psychologists or other healers, can do no harm to patients and must do them a great deal of good. Contrary to Dr. Cabot, I believe in the doctor habit and am unalterably opposed to the prayer habit.

In what diseases will psychotherapy do good? In all or nearly all. In functional nervous diseases it will do most good. Even in organic disease, symptoms may be relieved and can even be made to disappear by properly directed psychic treatment.

As this paper deals only with the general aspects of this large subject, details can not be entered into and the citation of illustrative case histories must be reserved for another occasion.

SUMMARY AND CONCLUSION.

1. There are two methods in psychotherapy, (a) suggestion, (b) education and persuasion.

2. Hypnotism, a form of suggestion, should be employed as a last resort, but it has its legitimate uses.

3. Psychotherapy is a part of general medicine and surgery; consequently it should be utilized by physicians and not left to quacks and healers.

4. A most painstaking physical and mental examination is a necessary prerequisite to successful psychic treatment, as the patient must often be treated both physically and psychically.

5. Psychotherapy should be incorporated in the regular curriculum of every medical school, because the best interests of the public and the profession demand that this powerful weapon for good, if properly used, shall be placed early into the hands of sane and safe men.

EXPERIMENTAL STUDIES ON ROUND ULCER OF THE
STOMACH AND DUODENUM.*

FENTON B. TURCK, M.D.

CHICAGO.

The present communication on the etiology of peptic ulcer presents new phases by the author's more recent experimental researches on animals. By feeding animals, principally dogs, with a certain strain of bouillon cultures of *Bacillus coli communis* for several months, spontaneous or induced genuine peptic stomach or duodenal ulcer was found in every animal experimented upon, the ulcer causing death by perforation or by hemorrhages. Certain changes in the blood serum and also cellular changes indicated a general process, characterized by diminution of the normal protective bodies resulting in autoeetolysis. The blood changes and general condition seemed to be produced by the absorption of products formed in the gastrointestinal tract. Histological examinations of the induced peptic ulcers showed no round-cell infiltration or other evidences of healing processes.

Intravenous inoculations of dogs and rabbits with cultures of *Bacillus coli communis* for a long period of time (one to six months) failed to produce ulcer of the stomach.¹ It was found that artificial ulcers made by removing portions of the mucous membranes of the stomach did not heal in four cases out of the twenty animals that received the above inoculations. Genuine induced peptic ulcers were produced, however, in every experiment in which bouillon cultures of *Bacillus coli communis* were fed to dogs. Bouillon cultures of this organism were given daily in increasing amounts from 50 cubic centimeters to ordinary meat diet and in other cases with meat extractives in addition to the bouillon cultures. During the course of experiments observations were made of the blood changes, such as the agglutinating, hemolytic and coagulating power; of the bacteria in the blood and stomach; of the systemic disturbances; of the evidences of infection; of the symptoms of ulcer, as pain, hemorrhage, etc. It was found that the dog's serum agglutinated bacillus coli in high dilution, that the coagulating time of the blood was slower, that hemolysis was present, that bacteria were at no time found in the blood, and that few, if any, symptoms of systemic disturbance appeared.

The experiments were begun with the colon bacillus because this is the organism found normally in large number in the intestines, and which multiplies luxuriantly in certain disorders of the stomach and intestines. Cultures of the bacilli were used made with bouillon of meat extractives, first by injection directly into the circulation, but later they were fed to the animals with their ordinary meat diet. In some cases the meat extractives fed were double in amount of the meat they ate. The bacilli used for the cultures were taken from feces of patients suffering with ulcer of the stomach. So much for the earliest experi-

*Read before Chicago Medical Society, March 4, 1908. For discussion see page —.

1. BuH. No. 32, Hyg. Lab., etc., Washington.

ments of others and myself which led on to the adoption of the method of feeding bouillon cultures of colon bacillus, which invariably has given positive results.

METHOD.²

Increasing quantities of a twenty-four or forty-eight hour growth of *Bacillus coli communis* in bouillon were fed daily to the dogs, together with an ordinary meat diet, beginning with small amounts and increasing to 1,000 cubic centimeters. Watery emulsions of the surface growth on agar plates were occasionally substituted. The strain of *Bacillus coli communis* used was obtained from the feces of cases of ulcer of the stomach. Where watery emulsions of the surface growth on agar plates were substituted, beef extract in addition was fed the dogs in saturated watery solution or in capsules, approximately 25 grams being fed daily, together with an ordinary meat diet.

The results of the feeding process described above may be reduced to four phases or stages:

1. Typical gastric ulcer, which, if allowed to proceed, would result in the usual fatal perforation or hemorrhage. The absence of round-cell infiltration, or any apparent indication of healing.

2. The second phase is the result of the cessation of the feeding process, and is in truth an interruption of the ulceration. It is a stage of healing, leaving after it a distinctly observable cicatrix. In a word, it is a healing of the ulcer by the withdrawal of its causes.³ Some chemotactic substances seemed to be formed in this second stage of the experiments, not active in the ulcer area, as noted above in the first phase of these experiments.

3. The third stage ensues by resumption of the feeding process with the bouillon cultures in very large quantities. The experiments were as follows: First, feeding for two months, gradually increasing; second, stopping the feeding for two months; third, resumption of maximum feeding 1,000 cubic centimeters bouillon *Bacillus coli communis*. The results were violent reactions; two cases of psychosis followed by death, two of diarrhea and bloody flux followed by death. These sudden violent reactions following the resumption of the feeding of *Bacillus coli communis* would indicate that increased susceptibility was produced during the period when the feeding was suspended.

It is observable that on injecting large doses of a toxin or of a foreign body, such as horse serum, into a guinea-pig, the phenomenon of anaphylaxis ensues.⁴ When the injection is temporarily suspended and resumed, violent reaction of the organisms follows.

4. This stage also was preceded by one to three months of feeding and two months of interruption of feeding. The resumption of feeding, however, of *Bacillus coli communis* was in small quantities and at intervals. The chemotactic conditions of the second stage were gradually developed; at the same time anaphylaxis was not induced, and the result is chronic deep ulcer.

2. Journ. Med. Research, vol. xvii, No. 4.

3. British Med. Journ., April 20, 1907.

4. Archiv. di fisiol., 1904, cxxix. Also Compt. rend. Soc. biol., 1905, cix, 112, 955.

The question arises, is there a relation between these induced ulcers in animals and the peptic or round ulcer in the human being? Hektoen has noted many points of resemblance. So far as the histological examinations of these ulcers are concerned, there is a very close similarity to the peptic ulcer in a human being, but as to the question of the etiological factors being the same, it is somewhat more difficult to establish, but recently Mahnert observed that fifty cases of ulcer of the stomach developed after an attack of appendicitis. Appendicitis is the direct result of disturbances due to the intestinal flora and more frequently to the colon bacillus, and the finding of ulcer in the stomach in so many cases of appendicitis somewhat parallels these experiments from an etiological point of view.

TREATMENT.

Assuming, now, that we have a clearly defined case of ulcer to deal with, what are the indications for treatment? Primarily our experiments and clinical observations indicate that the lesion is the result of a general and not a wholly local cause; that it is induced by alterations in the pabulum of the intestinal flora and by absorption into the circulation of substances that lessen the normal protective power of the blood, lowering the resistance of a gastric or duodenal mucous membrane.

Conditions that render the gastric or duodenal mucosa peculiarly vulnerable—malnutrition, defective metabolism, visceral atony and a long train of predisposing elements—though not of themselves able to induce, may favor the production of ulcer. We must, therefore, address our efforts toward the improvement of these constitutional conditions, and perhaps the steps of treatment may be divided into four, namely, (1) proper nutrition for the entire system, (2) the establishment of an increase in the production of normal antibodies, (3) the re-establishment of functional activity or tone in the diseased organ, so that its power of resistance may be increased, (4) the employment of measures to inhibit the multiplication and change the character of the offending intestinal flora. Food that is digested in the upper tract, leaving no substance available for bacteria in the lower intestinal tract, would be the first indication of treatment, supplying such a preparation that would be least irritating to the stomach with the highest degree of absorption.⁵

VACCINE AND SERUM TREATMENT.

The use of the intestinal flora for the preparation of vaccines promises much for these cases. The preparation of sera will require much more experimental work before we can accomplish satisfactory clinical results. So far the most practical results have been obtained by the injection of the dead bacillus to excite the opsonins in the blood, in order to increase the resistance against autolysis. Diphtheria antitoxin seems to exert a polyvalent effect that is difficult to explain.

From the cases of the dogs in the last experiments, where the ulcer-

6. Medical Record, May 25, 1907.

inducing diet of colon bacilli was stopped after certain periods of time, and treatment for ulcer was instituted, and where postmortem revealed ulcers in various stages of healing much has been learned of importance in the prognosis of the disease in the human family, especially from the standpoint of general systemic conditions.

THE ANALYSIS AND MODIFICATION OF MOTHERS' MILK.*

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PEORIA, ILL.

Normal mothers' milk is an emulsion of fat globules floating in plasma. Its white color is due to refraction of light, as in other emulsions of oily nature. Milk is a perfect emulsion in that each globule remains separate with a thin layer of plasma adhering to it by the power of capillary attraction. This thin layer of plasma was taken by early examiners to be a capsule of albuminous material. Among the globules of fat float the smaller particles of proteids and held in solution are the lactose and earthy salts. Cotton of Chicago gives the average of mothers' milk as follows:

Proteids	1.2 per cent.
Fat	3.4 per cent.
Lactose	6.7 per cent.
Salts (ash).....	0.2 per cent.
Water	88.5 per cent.

Average specific gravity 1.030, reaction alkaline. These percentages vary in different periods of lactation, but so slight as not to affect a clinical analysis, but may be summarized as follows:

1. Fat shows no constant change, its only characteristic is its variability.
2. Carbohydrates low on second day, rise rapidly during first ten days, increase continuously during lactation but very slowly after first ten days.
3. Proteids are reverse of carbohydrates.
4. Earthy salts diminish similar to proteids.
5. Colostrum period of ten days, has low carbohydrates with rapid increase, high proteids and salts with rapid decrease.

The methods of analyzing mothers' milk are numerous. Those that are made on accurate chemical bases are mostly done after the methods of Adams, Babcock or Leffman and Bean. These are chemical tests and, although accurate, involve so much time and apparatus as to make them impractical for clinical purposes. Therefore, they are of little interest to the clinician, so they will be omitted from this paper.

The clinical tests, or methods of analysis, of value are four:

1. The gravity test employed by Holt.
2. Optical test of Feser.
3. Action of reagents as used by Mareaud.

* Read before the Peoria City Medical Society.

4. The combination action of reagents and the centrifuge as used by Babcock and Leffman and Beam.

Holt's apparatus is a slender cylinder graduated to 100 divisions. This cylinder is filled with milk to the zero mark and allowed to stand for twenty-four hours, when the percentage of cream can be read off. He assumes that fat is to cream as three is to five. This method, while simple, has two disadvantages. First, it requires so much time; second, the assumption that fat is to cream as three is to five is not always true, as other tests show fat does not have a definite ratio of cream. Baumhauser of Amsterdam analyzed chemically twenty samples of milk, which were numbered from 1 to 20; Nos. 5, 10, 15, 18 and 20 were found to contain fat 3.3 per cent., 3 per cent., 3.9 per cent., 2.3 per cent. and 2.7 per cent. respectively, although the depth of the layer of cream was the same in all these five samples.

Feser's lactoscope is a slender glass cylinder resting on a foot or base. Projecting up from the base into the center of the cylinder is a white porcelain column marked with black cross-lines. Four cubic centimeters of milk are put into the cylinder. This is diluted with distilled water, with frequent shakings to thoroughly mix the milk and water until a degree of dilution is reached enabling one to see the black cross-lines on the white column. The cylinder is so graduated that the percentage of fat may be read off from the amount of water required to make the proper dilution. This being an optical test, the "personal equation" comes into the problem as in all color tests. Then the different sizes of fat globules change the refraction of light, there being a great difference in the size of fat globules in two given samples of milk, although the percentage of fat may be the same. The more globules you have the more there are to refract the light, so that a sample with small fat globules would look denser than the one with large globules. These disadvantages make this test unreliable.

Marcaud's apparatus is a common graduated glass tube. The test is made by putting in five cubic centimeters of milk, adding one drop of caustic soda, then five cubic centimeters of ether, shaking tube until fat is extracted, and adding absolute alcohol and warming; the fat rises to the top and may be read off on graduation. This test has not given the uniform results obtained by combination of reagents and centrifuges.

Babcock and Leffman and Beam combined the reagents and centrifuges, although each use different reagents and different forms and sizes of bottles. The Babcock bottle has a long, slim, graduated neck with a bulb-shaped body, and is made to fit a cup or arm of Babcock's centrifuge. There are then put 17.6 cubic centimeters of milk into the bottle with a long slim pipet, taking a little care not to smear neck of the bottle. Then add 17.6 cubic centimeters of strong sulphuric acid, which changes the proteids into soluble acid albumin, thereby lessening the interference of the rising of the fat globules. The acid should be added slowly and mixed with the milk by a rotary motion so as not to agitate them too much. The bottle is then placed in the centrifuge and

rotated at 1,000 per minute for two minutes. Then fill the bottle well up in the graduated neck with boiling water, centrifuge again for one minute, when the percentage of butter fat may be read off. It is convenient to use a pair of compasses or dividers to take the depth of strata of fat, then placing one leg at zero the other will indicate the exact percentage of fat and save the subtraction necessary if fat is read just where it stands.

The Leffman and Beam bottles differ from the Babcock in that they fit many of the regular office centrifuges. They also have the advantage of taking less of the milk. A large sample is often hard to get, but otherwise the principle is the same. Fifteen cubic centimeters of milk are put into the bottle, three cubic centimeters of equal parts of amyl alcohol and strong hydrochloric acid added. The bottle is now filled to the shoulder with strong sulphuric acid mixed well with a rotary motion. The neck is then filled well up on to the graduation with equal parts of sulphuric acid and water, placed in centrifuge and rotated two minutes at 1,000 per minute, when percentage of fat may be read off. The Babcock method, owing to its simplicity and accuracy, is rapidly displacing all others. Richmond, by varying his results obtained by Babcock's method (with a great many analyses chemically done), showed that the Babcock method if carefully done would not vary over three-tenths of 1 per cent.

In all clinical tests the specific gravity is very important, for the relations of fat to specific gravity give us the data to calculate the total solids. The specific gravity should be taken with milk at a temperature of 60 degrees F. If taken above or below it should be increased one for every 10 degrees above 60 degrees and decreased one for every 10 degrees below 60 degrees, and with same proportion for smaller increase or decrease. In taking specific gravity allowance should be made for mucus, and it should be borne in mind that milk, owing to its viscosity, retains minute air bubbles and it should not be agitated before taking the specific gravity. The effect on the specific gravity in changing any of the constituents of milk is quite remarkable. For example, increase fat and you decrease specific gravity; while specific gravity is increased by increasing other solids. On the other hand, diminish fat and you increase specific gravity, while diminishing other solids diminishes specific gravity. So your dairyman may increase specific gravity by skimming the milk and reduce it back to normal by adding water. So it was found many years ago that the specific gravity test which was used at one time by health boards was not making the milkman be good.

In given samples, fat being high and specific gravity being normal, the total solids must be high. In other words, the higher the fat the higher the total solids must be in order to maintain normal specific gravity of 1.030. Since the sugar and salts maintain a constant percentage, the proteids are the next in importance after fat. Richmond, after a great many chemical analyses of milk, has given us two valuable deductions: first that sugar and salts are almost constant at sugar 6.7 per

cent. and salts at 0.2 per cent.; second, what is known as Richmond's formula for finding total solids after fat and specific gravity are known, which is $1/4$ of last two figures of specific gravity plus $6/5$ of fat plus the arbitrary decimal .14. It may be thus stated in an algebraic formula, letting T. S. = total solids, G = last two figures of specific gravity and F = fat (from Cotton).

$$\text{T. S.} = \frac{G}{4} + \frac{6 F}{5} + .14$$

In a given sample suppose specific gravity to be 1.028 and fat 4; then

$$\text{T. S.} = \frac{G}{4} + \frac{6 F}{5} + .14$$

$$\text{T. S.} = \frac{28}{4} + \frac{24}{5} + .14$$

$$\text{T. S.} = 7 + 4.8 + .14$$

$$\text{T. S.} = 11.94$$

Then proteids are found by the following:

$$- P = \text{T. S.} - (6.7 + 0.2 + .14)$$

Proteids = 1.04	Salts = 0.2
Fat = 4.	Water = 88.06
Sugar = 6.7	

MODIFICATION.

When the baby is sick the laity and a great many physicians see only a sick baby to be treated and do not realize why the baby is sick, so the baby is given a lot of remedies that are supposed to be "cure-alls" for bowels, indigestion and cholera infantum. All the while the fault is with the mother. How often could the suffering of these little ones be lessened if that could be understood, and especially by the mothers themselves. Milk to many people is just milk, and they are satisfied if they can (in obtaining their daily supply) be reasonably sure that it has not been skimmed. So if the mother has plenty of milk and the baby does not do well the conclusion is reached at once that the mother's milk does not agree with the baby without any consideration for the quality of the milk. I wonder how many times this has been said by physicians; often they are right and likely in some cases it never could be corrected, but in many it could, and every case should have a trial before the baby is put on cow's milk or any other substitute for mother's milk. No one would think of saying a patient had diabetes without first analyzing the urine. Then why should any mother be told that her milk does not agree with her baby without an analysis. Then, too, if it does not agree with the baby there is so much that can be done to make it agree. True, there are cases that are so grossly wrong that all efforts fail to bring it within the limits of safe food for a baby, as in a case of a physician's wife I knew in Chicago. The fat was 9 per cent. and the most rigid diet would

only bring it down to $61\frac{1}{2}$ per cent. But so many are not so far off and can be corrected by changing the quality of the mother's food and superintending her exercise and habits of life.

The first thing that would suggest itself in a logical study of a sick baby would be, what makes it sick? If it is the mother's milk, what is wrong with it? Here is where the analysis comes in, and if it is found the sample is not a good one, you will know in what ingredient it is deficient or the reverse. Then one can go about it in a scientific way to correct the fault. This will be no easy task, for there are so many phases to the problem. Any violent agitation of the nervous system of the mother will change the quality and often the quantity of the milk, such as undue fatigue, excitement, anger, grief; also excessive coition, menstruation and conception, all of which should be held in mind in searching for a cause of a faulty sample. Then there are the many bad results which may have followed childbirth, such as laceration of the cervix or perineum, infected tubes or endometrium, malposition of the uterus and the many other ailments that the female generative organs are liable as a result of confinement. In other words, given a sick baby and mother with insufficient or faulty samples of milk the physician is in duty bound to give the mother a rigid examination, and any physical defect should be corrected if possible, even if that would necessitate artificial feeding temporarily and keeping up the supply of breast milk by a pump.

Of course all cases of indigestion in infants can not be charged to faulty milk, for good milk will make a baby sick if too much is taken, just as good food will make a grown person sick if he takes too much, and over-feeding is likely the rule rather than the exception in babies. Heubner has determined along the lines of metabolism the number of calories needed per day per kilogram of body weight necessary to insure proper development in normal breast-fed babies. This so-called energy quotient he found to be about 100 calories per kilogram of body weight from the third week to the end of the sixth month. A gradual diminishing amount after that time to about eighty or eighty-five at the end of the first year. He established seventy as the approximate quotient necessary to maintain a weight equilibrium. It is a simple matter, then, to calculate the amount of food a child needs. As there are two and one-fifth pounds to a kilogram, we have $100 \div 2\frac{1}{5} = 45$, or the energy quotient per day per pound of body weight. So a fifteen-pound baby should have 675 quotients per day.

The physiological food value of the three principal foods are fat 9.3 calories per gram, carbohydrates 4.1, proteids 4.1. In calculating the energy quotient it is convenient to use the liter, as there are 1,000 grams in the liter. So 1,000 times your percentage gives the number of grams in the liter. Take, for example, the normal mother's milk with fat 3, proteids 1.5 and sugar 6.5 would give thirteen grams of fat, fifteen grams proteids and sixty-five grams of sugar. The fat multiplied by 9.3, proteids and sugar by 4.1 each. The sum of this would give the energy quotient for a liter or quart (as a liter represents about a quart near

enough for these calculations). So the energy quotient of a quart of this milk would be 598.9. A fifteen-pound baby would require a little over one quart of 3 per cent. and a little less than one quart of 4 per cent. milk. Taking this as a basis, nearly all babies are overfed.

But to get back to the mother; after one has assured himself that she is in good physical condition, then diet, exercise and superintending habits of life are left. When one expects to change any secretion of the body, by diet or otherwise, the physiology of that secretion becomes important. The knowledge of the mode of production of milk from the circulating fluids of the body is very indefinite. There are three theories:

1. That the emulsion of fat is produced by a breaking down of the living cells of the alveoli (a fatty degeneration, if you please), but this would necessitate the renewal of the epithelial cells, it is estimated, at least five times in twenty-four hours, which would seem to disqualify this theory.

2. The second is a modification of the first in that only the free ends of the cells degenerate, the fixed ends with the nuclei remaining.

3. That the cells of the mammary gland have the power of elaborating from circulating fluids of the body a secretion peculiar to themselves, cell destruction being no more necessary than in other secreting glands. The last would seem the most reasonable and is one accepted by many of the best authorities. Now if the secretion is to come from the circulating fluids of the body, and these fluids are replenished from the food, then to change the secretion of the mammary gland we must come back to the food. The problem is cornered down to giving the woman food that will increase the deficient ingredient in her milk or take away the food that is holding any one ingredient high.

There is an idea prevalent that a milk that looks blue and watery, being deficient in fat, can be corrected by the mother taking large amounts of fat in shape of cream. But the ingestion of fat as food *does not* increase the proteids, and so plenty of proteids increases the fat. Both the quality and quantity of milk are influenced by frequency of nursing. Poor milk often results from prolonged and irregular intervals of nursing. The oftener the breasts are emptied the richer the milk is in total solids and especially in the proteids. Of course this works well if proteids are deficient, but suppose the proteids are normal or above normal and the baby is put to the breast every time it cries, the proteids keep increasing and the baby keeps having the colic. Frequently the baby, irritated by the thirst of a slight indigestion, is thrown into a severe attack by the frequent giving of the breast to stop baby from fretting. The child wanted and needed water, but the only way to get it was through the breast, and it with its increased amount of proteids. So the very means of quieting is only the laying of the mine the explosion of which will be the signal to call a doctor.

In conclusion I will give the means at my command to regulate the composition of mother's milk in a tabulated form as given by Cotton of Chicago:

The percentage of proteids is increased by increased frequency of nursing, increased liberality of proteid food, insufficient exercise.

The percentage of proteids may be diminished by diminished frequency in nursing, diminished proteid food, increased exercise.

The percentage of fat is increased by increased proteid diet.

The percentage of fat is diminished by deficiency of proteid diet, excess of fatty diet.

The percentage of water is increased by increase of liquid diet.

The percentage of water is diminished by saline cathartics, diminished liquid diet.

As previously stated in this paper, sugar and ash vary but little, and the little they do vary seems to have but little if any effect on the baby.

PREVENTION OF CHILDBED INFECTIONS.*

HERMAN LESAULNIER, M.D.

RED BUD, ILL.

Childbed infections as here understood mean all the many diseased conditions that may come up in mother or infant during childbed period, caused by microbes, except eruptive fevers; non-inflammatory diseases of the nervous system, such as tetany, insanity, etc. Childbed infection in almost all cases is a wound infection; it may be a local infection of the external genitals, or in the infant of the umbilicus or eyes; or it may be a more serious infection of the genital organs (in the infant the eyes), most frequently the uterus, often the tubes and other pelvic organs, occasionally the system in general. Usually the infection starts from the endometrium, setting up a putrid or a septic endometritis. In putrid endometritis there is found in the uterus a superficial layer of necrotic tissue under which is a layer of granulation tissue, filled with phagocytes, or "devouring cells," which so ably help Nature in curing our patients. Septic endometritis may be a local condition or an inflammation followed by general infection.

We may have an infection in the infant. That generally takes place at the navel, or it may enter through the navel into the system, yet it is possible to enter the system through an accidental wound. Or it may be inspired into the lungs with putrid liquor amnii, or be inhaled with the air, or even pass through the placenta. The predisposing causes of infection in childbed fever are: Traumatism of the various parts which facilitate the invasion of infectious germs. In the mother the anemic non-resisting condition of her blood in general. The increased muscular tissues in general, as of the heart, arteries, uterus, breasts, giving fertile soil for infection. The general exhaustion of the patient during labor, thereby lowering the resistance of the tissues in general. The high state of irritation of the nervous system, the exhaustion by pain, loss of blood, remnants of the placenta, or membranes, blood clots, retention embolism, which may decompose in the utero-vaginal tract. Tardy subinvolution

*Read at the April meeting of the Randolph County Medical Society.

may be due to septic endometritis. The lack of general sanitary surroundings, or any constitutional disease tending to lower patient's vitality, may predispose our patient to infection.

The exciting cause of childbed infections are the introduction of certain microbes into parts of the mother or child so infected. In nearly all cases it enters into parts so infected with fingers, instruments or other infected material by doctor, midwife, nurse or patient herself. Infections may have taken place before, during or after labor. I do not think that auto-infection is possible in any other type than as sapremia, unless vaginal passages are infected before labor. In the New York Maternity Hospital Reports in the year 1905 they had 951 labors, with no deaths and only two infections. In the records from 1875 to 1883 they averaged 4.17 per cent. of deaths, while under strict antiseptic precautions in the following few years their mortality was at once reduced to 0.87 per cent. Insurance reports give us in deaths in women between the ages of 18 and 40 years from 13 to 18 per cent. of deaths are due to infections, saying nothing of the invalid mothers owing their ill health to the milder grades of infection. These I am satisfied are often overlooked by midwives in general, and I am sorry to say by careless physicians who see their patients but once or twice in a labor case. Personally I never could content myself with less than five visits in town or two in the country, nor do I believe that good results can be given with less unless we have a trained nurse.

Nearly 50 per cent. of children that become blind shortly after birth, or 20 to 30 per cent. of blindness in children, is due to gonorrheal infection. Do not forget the possibility of tetanus infection entering the system through the navel.

Education of the mother as to the absolute necessity of engaging you early in pregnancy, instructing her in the care of her nipples and breasts, and general health. Get previous history in her labor cases. Examine urine of patient, as the case may require, for the possibility of albumen, sugar casts, etc. Examine patient at least once at the close of the ninth period for chronic infections or old lacerations, gaining information of approximate pelvic measurements and condition in general. Inspire mother with the necessity of everything in readiness to be in as sterile a condition as possible, of a warm sponge bath, a complete change of undergarments and bedding, of the advantages of the removal of the pubic hairs, of selecting a bright airy room, clear from dust-laden draperies.

I find a maternity packet, as put up by various manufacturing firms, does much to inspire mothers of its usefulness. Direct mother to have in readiness plenty of sterile water, basins, syringe, towels, to empty her bowels, with large cool enema and vulvar occlusion pad, and of calling you at once. Take with you a young trunk of supplies, including rubber Kelly pad, rubber gloves, gauze, antiseptic tablets and solutions, anesthetics, uterine stimulants and sedatives and hemostatics, silver eye drops, umbilical powder or salve, forceps, catheter, hypodermic syringe

and tablets, scissors, scale, knife, suture material, needle holder and needles, obstetric tractor, intrauterine douche, Voorhees dilator, placental forceps, hand brush. And don't forget to have all in as sterile condition as possible. Do not permit the family to supply you with infected material. Do not permit people with erysipelas, puerperal or wound infections in the room of the patient. Arrange bedding as well as patient in as sterile condition as possible, not forgetting your own and your nurse's hands and surroundings.

Examine your patient to satisfy yourself of fetal position. I feel that with practice on every opportunity offered us we soon can perfect ourselves to diagnose position and presentation of fetus by abdominal auscultation, percussion and palpation alone, thereby avoiding vaginal manipulation, and in so doing lessening the chance of infecting the mother. Permit labor to advance without interference until head presents at the vulva. Arrange table at your convenience, with wash basin, antiseptic solution, umbilical scissors, absorbent cotton, gauze, ergot, etc. Arrange bed with rubber sheet, Kelly pad, aseptic sheets, keep vulvar occlusion pad to parts changing often as soiled.

So regulate descent of head, by not permitting too rapid descent, by keeping head well up against pubes, by placing patient on left side, by giving anesthetic, by patient breathing short, by supporting perineum, all with the aim of preventing laceration, and getting rid of another source of infection. If laceration is inevitable episiotomy is proper. Make incision with long axis of body, suturing with catgut. I think by proper manipulation in delivery and extended experience this step rarely becomes necessary. Note that 35 per cent. of primipara and 10 per cent. of multipara are lacerated; certainly 50 per cent. of these are preventable by proper manipulation. Rectal manipulation is hardly consistent with aseptic work, nor do I see its advantages. Permit uterine contractions to deliver the body, unless interest of mother or child demand haste, not forgetting support of perineum here as well.

Support uterus well by pressure over uterus, continuing this for some time after third stage is complete. Wrap sterile gauze around navel cord, tie off when uterine pulsations cease or when third stage demands your attention. Maintain rigid asepsis of vulva and cord. Await ordinarily one-half hour, or until pulsations cease, cutting cord as short as is consistent with safety, dust with salicylated zinc, seal with borated gauze, cotton and binder. Wash out infant's eyes with a 2 per cent. boric acid solution, and if not certain of non-gonorrheal infection instil a 2 per cent. silver nitrate solution or 25 per cent. argyrol solution, continuing boric acid washings for a week. Now begin massaging uterus by Credé method, if in vain again getting your hands and vulva in aseptic condition and by aid of fingers, or placenta forceps, never applying traction on cord until it is well down into vulva, removing placenta. Examine placenta carefully and see that all is well removed, maintaining dorsal position of mother, and firm pressure over uterus to maintain uterine

contractions, giving ergot in sufficient doses to accomplish same; abdominal binder properly applied is good, keeping in mind the possibility of air embolism.

If you have been able to maintain aseptic passages, washing and sealing of vulva with occlusion pad and maintaining it so is all that is necessary. But if you find discharges with fetid odor, temperature of 101 or 102, I think saline or $\frac{1}{2}$ per cent. lysol vaginal douching, or even intrauterine douching is essential, possibly dry uterine gauze drainage is better, never neglecting thorough frequent vulvar antiseptic washings and occlusion pads, repeating douches to maintain passages in as aseptic condition as possible. If catheterization becomes necessary do not neglect all antiseptic precautions here as elsewhere, as cystitis is more easily produced than cured. In lacerations of perineum or cervix, first of all prevention or lessening in extent by all methods possible in our power, as previously stated. Second, suturing, at least in the first twenty-four hours. Ordinary cervix lacerations seem to me to do best by strict aseptic occlusion pads and antiseptic vulvar washings, but if we find fetid discharges and 101 degrees of temperature I think best to give antiseptic douches often enough to maintain it fairly aseptic, if severe extensive lacerations, suturing cervix later as condition of case presents itself. Instruct your nurse to be thorough as to herself and everything coming in contact with mother. Irrigate the vulva with mild antiseptic solutions, changing occlusion pads frequently, etc.

I notice in the cities, from a medicolegal standpoint, that childbed infections are forming a basis of not a few malpractice suits. May I ask how long will it be until we here will be expected to follow their footsteps as to aseptic obstetrics? I well realize the impossibility of country practitioners getting hospital results. Nor do I want you to think that I am able to get these results; nay, indeed, it is having infections which induced me to investigate this branch of medicine away from home. May I ask, do we always do all in our power, by education of our patients, by instructing our nurses, and by equipping ourselves with aseptic materials, to prevent these conditions and are we not prone to make ourselves believe that the fool people don't want this kind of treatment, thereby consoling ourselves for the great mortality from this group of diseases, saying nothing of the chronic invalidism of many of our patrons. I never could see the consistency of visiting a simple case of pneumonia daily for ten or twelve days, while a woman in confinement received our attention but once or twice. Certainly we deprive ourselves of the opportunity of being able to recognize our patient's condition in its early stage, and certainly entirely overlooking the many milder cases of infections, finding our patient with a pulse of 100 to 110, temperature of 101 to 102, are we justified in consoling ourselves with the statement to the family, that a slight congestion of the breasts, or that too many visitors to-day, account for her condition, without first being sure of the odorless non-septic condition of the vaginal discharges and uterovaginal passages in general?

SHOULD DRUGGISTS MANUFACTURE AND DISPENSE MIXTURES OF THEIR OWN, AND IS IT ADVISABLE THAT DOCTORS DISPENSE THEIR OWN DRUGS?*

H. E. IRISH, M.D.

CHICAGO.

From time immemorial institutions have been measured by their usefulness to the public and by this measure have they stood or fallen. Self-advancement, mercenary acquisition or individual aggrandisement bear no part in the estimation which a public puts upon a profession. The ultimate height to which our banners will fly must be determined by one standard—value of service.

By the custom and tradition of centuries the care of the public health has been intrusted to the hands of the medical profession and its adjuncts, and our present-day eminence in the economies of the state stands as an evidence that that trust has not been violated. In the hope of deepening our regard for the public weal, in the thought of augmenting the value of our service to our public, we meet here to-night for consultation and consideration of the best methods of placing the best drugs in the hands of our people.

One hundred years ago the function of the pharmacist and physician as we know them to-day were much mixed. Empiric dispensing went hand in hand with empiric prescribing, and from this chaos of error arose a forest of untimely gravestones to mark its passing. We of to-day are living in an era of specialism where the various functions of the physician have been delegated to men especially trained in the requisites of that branch. Physicians, strictly speaking, do not extract teeth, perform special and dangerous operations without the help of a surgeon, nor do they compound and dispense their own drugs, and these divisions of function have made for the betterment of our general service to the public.

An especially large and important assignment of function has been made to the pharmacist, from whom in his proper sphere results of the greatest importance and satisfaction have been attained. Nevertheless, unfortunately, evils have arisen of such magnitude and import that the medical profession needs take cognizance of them. Foremost among them perhaps is the one which we know generally as shelf or counter prescribing, by which we mean diagnosis by conversation and prescription by speculation. This evil fortunately is not general and I believe is waning, especially in the last two years, and I believe will wane faster would physicians as a matter of duty point out to the pharmacist the peculiar and far-reaching effects of this pernicious custom. Most well-informed pharmacists never prescribe; many of the older pharmacists prescribe occasionally while condemning the practice, and others prescribe and recommend indiscriminately as a matter of good fellowship or false idea of gain.

*Read before the Northwest Branch of the Chicago Medical Society, April 3, 1908.

Perhaps the most generally counter prescribed disease is gonorrhea. All physicians realize fully the wonderful persistence of these bacteria when hidden away in the various glands and crypts tributary to the urethral canal. They may persist in viable form for years. Now, Mr. Dispenser, are you prepared when you undertake the treatment of such a case to also determine when it is terminated? When your man no longer sees his "morning drop" are you equipped to say whether or not he is cured? Do you stop to consider the honorable bride and her peritonitis, the unborn child and its gonorrheal conjunctivitis, and when you see the silken crepe floating from that bride's door reflect; when you see that babe groping his way through life with his sightless eyes bared to the public gaze, let your memory run back to the man who came to your counter, received his copaiba capsules and zinc injection and went away ignorant of his infective possibilities.

Do you ever stop to think that the man who comes in wanting "something good for a cough" may be suffering with an enlarged thyroid, an interpleuronic abscess, an aortic aneurism, a pleurisy or a beginning pulmonary tuberculosis? Yet the same excellent cough cure does for one and all, and your customer lets the valuable first day drift away and, lulled into a sense of false security by the opiate content, passes into an incurable stage, finally coming to a physician to hear his death sentence—"too late." He dies and brings reproach upon all medicines and all men who deal in them.

Are you prepared when you dispense "something good for a sore throat" or "something good for croup" to verify your conversational diagnosis with a high-power microscope? Two fatal cases of tonsillar diphtheria have come to my observation during the past year and three fatal cases of laryngeal diphtheria, commonly known as membranous croup, in all of which there had been a preliminary course of so-called "harmless" cough cures, gargles and home treatment. When we come face to face with the positively demonstrated fact that each and every one of the cases was curable at one stage of the disease by the simple injection of a dose of antidiphtheritic serum, is it not pitiful?

A little more than a year ago a patient came to me with a bottle of pain reliever in his coat pocket, "something good for cramps." He complained of an excruciating pain in his abdomen, which an examination showed to be a small but tightly strangulated hernia. A midnight operation relieved his pain and saved his life. Just how many cases of pustular appendicitis have been permitted, under the influence of "cramp medicine," to develop into a fatal general peritonitis I am not prepared to say, but I believe the number to be large.

A large proportion of requests to the druggists from self-medicators comes in the form of "something good for a physic." I believe that nearly all if not every case of chronic constipation is the direct result of laxative medicine which weakens while it serves. Begun in infancy with "castoria," fig syrup and what not (always containing senna), continued through childhood and adolescence, we meet them in adult life, pallid, icteric or eczematous, living a life made miserable by the constant specter

of the pill box or fountain syringe. Every one of these cases at one time was curable. Every one under the corrective influence of a properly directed régime of diet and habits, of massage, exercise and electrotherapy, together with a few properly selected drugs, could have passed his years of adult life in peace and pleasure were it not for the pernicious bowel weakening and bowel paralyzing, promiscuous physicing with improperly directed drugs. Instances of misapplied therapeutic measures, such as rheumatism medicine, generally salicylates, for bone and tendon tuberculosis; dyspepsia mixtures for gastric ulcer and carcinoma, etc., all of which prove without question the absolute foolhardiness of the conversational diagnosis and speculative counter prescribing where a small first cost is large and the large final cost in money and lives is considered small.

Most of the pharmacists' special mixtures are manufactured, I believe, with the object of meeting the competition for largely advertised proprietary articles, in whose sale there is a small margin of profit to the retailer. But if we are to be co-partners in the practice of an exact science, we will put the cough cure, the headache powder, the gonorrhea injection and the prepared gargle in the background, dispensing instead the prescription exactly fitted to the needs of the case by a competent and conscientious physician who has made an exact diagnosis. As for the profits, the margin of profit on the prescription is infinitely greater than upon any self-compounded nostrum. If you wish to evince your good fellowship for your friend and customer, there is no way in which the everlasting gratitude of your friend may be so surely gained as by directing him to a properly equipped physician who will not only relieve his symptoms, but remove the cause of the disease. The plea that the other fellow does it is a weak one—other men are always doing wrong. Honesty, frankness and decency are the best paying stock in trade of any man in any business. Also bear in mind that the custom is waning and the more intelligent people approve the pharmacist who is willing to say, "I am a pharmacist and a good one; I am not a physician and a poor one." It is an attribute to your astuteness to confess your limitations, for sooner or later the error of delaying proper treatment will be manifest and you will have lost not only prestige, but profit.

Let us turn to the other question for a moment, the dispensing doctor. With this side I am not so familiar, never having dispensed a bottle of medicine nor passed along a sample, yet we are fairly familiar with the arguments advanced in its favor.

First, there is the plea of greater privacy between physician and patient, which is unanswerable, for certainly a two-party affair is necessarily less general than one of three parties. Is it essential? I have never yet come in contact with a case in my own practice where, to my knowledge, any exposure of my patient's affairs had been made in any form. I can scarcely conceive the mental state of a pharmacist who is so blind to his own interests as to acquire a reputation as a gossip or tattler.

Then there is the familiar argument, the doctor has better control of his case because his prescription can not be refilled without the doctor's

approval. This can easily be obviated by simply writing or, as many physicians do, by having printed upon the prescription blank the Latin phrase, "*Ne repetatur.*" I can truthfully say that no druggist has ever violated this injunction so far as I have known.

Another familiar argument is the difference of cost to the patients. It may be less at times, but should never be great enough to be essential nor offset other advantages.

What are some of the disadvantages of the doctor dispenser? For one thing, his stock of drugs will consist more or less of prepared combinations, and much of this will be in pill or tablet form. Can he reach the exact variation of dose of the different ingredients of a set combination to exactly meet the almost innumerable conditions which will arise in treating such a common disease as pneumonia? I doubt it. Can he be assured that the pills or tablets are as soluble and viable as the same combination of ingredients will be in powder or capsule form? I doubt it. Four years' experience in a pharmaceutical house supplying such preparations to physicians convinced me by the endless series of complaints of the insolubility of pills and tablets that such preparations are neither dependably soluble nor effective.

Does not the dispensing of certain set formulas without regard for the individual needs of the case tend to dwarf the therapeutic ability and intellect of the physician, does it not arrest his opportunity to investigate and approve new combinations and hinder the advance research work of the profession as a whole? Does not the cut and dried formula fit the patient to the drug rather than the drug to the patient?

Furthermore, must not any dispensing doctor at some time, owing to the natural limitations and occasional shortages of his stock, rely upon the neighboring pharmacist in case of emergency? Is not the doctor avoiding a duty when he fails to support the man and institution which must be his helper in the time of greatest need? Can a horse live on half-oats and be as good a horse? I fail to understand how a physician who is fairly busy can devote sufficient time to compounding properly his own drugs in such a manner as to render them most efficient after the manner of the skilled pharmacist.

I am willing to recognize that in certain emergencies a druggist may dispense certain drugs with propriety, but in our cities, with our wealth of well-equipped pharmacies and pharmacists, our wealth of well-schooled physicians of every specialty and generalty, why should either assume the function of the other? I like to think that the time will come when every physician will write an ethical prescription. By this I mean one composed of recognized United States Pharmacopeia and National Formulary drugs; when every pharmacist will properly compound these prescriptions with fresh, potent drugs; when every dose of medicine taken by the public will be sanctioned by a written order from a competent and conscientious physician—then and then only will our annual death rate from curable disease reach its just figure, which will be nearly zero; then and then only will the swarm of vultures who prey upon the public

—Eddyites, osteopaths, sun-worshippers, fruitedeaters and what not—starve for lack of sustenance and silently fly away, for by our own errors are they nourished; then and then only will the public accord to us the pre-eminent place in its estimation, for we shall be measured by our true standard of worth—value of service.

678 Grand Avenue.

REMOVAL OF THE PATELLA FOR UNUNITED COMMINUTED FRACTURE.*

CASSIUS C. ROGERS, A.M., M.D.

CHICAGO.

Mr. A. J. C., aged 30 years; occupation, medical student; family history, negative; no tubercular or specific history. On November 18, 1905, while invoicing stock in the storeroom of the Stratford Hotel, a



Fig. 1.—Showing line of incision colored with Tr. Iodin to make it more distinct.

pile of heavy boxes packed with case goods (setting unevenly on the floor) tilted forward. In an effort to save them from falling, his hands being engaged in holding the stock-book and pen, he pushed his knee for-

* Exhibit before the West Side Branch Chicago Medical Society, March 19, 1908.

ward against the boxes. There was a loud pop, he was unable to extend the leg or stand on it, and there was considerable swelling in a very short time (half an hour).

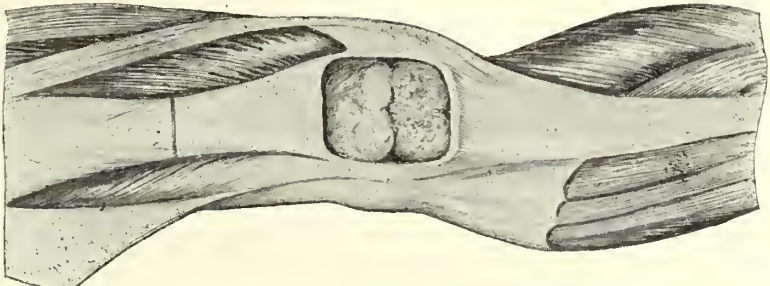


Fig. 2.—Transverse incision across the quadriceps extensor.

A physician was called, who found a complete transverse fracture of the patella with about one inch of separation between the fragments. He was taken to the hospital, and the next day the fragments were placed in

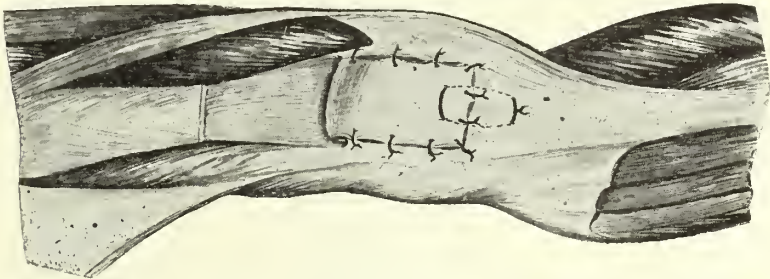


Fig. 3.—Flap of quadriceps extensor turned down and sutured to the patella tendon.

apposition as nearly as possible and dressed with adhesive strips to hold them in place. He remained in bed eight weeks, then walked with crutches three months, wore a leather cast seven months. A fibrous

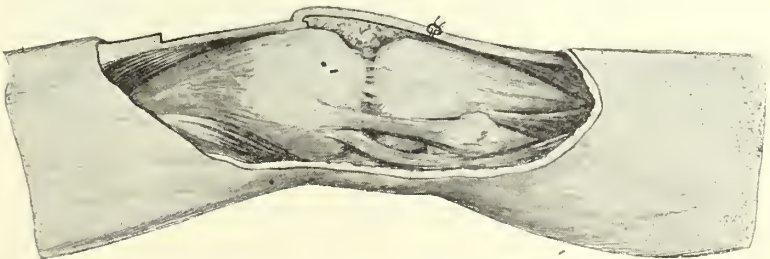


Fig. 4.—Lateral view of quadriceps extensor and anterior flap reflected.

union formed between the fragments, which at first were not more than half an inch apart. When he began to use the leg at the end of seven months this union began to stretch, until two or three fingers could be laid between the fragments.

On October 5, 1906, or eleven months after the first fracture, he slipped while going down stairs, breaking this fibrous union. The knee at once became greatly swollen (nearly three times its normal size), he was sent to the hospital, and it was decided to operate and wire the fragments together. The knee was kept covered with ice-bags and he remained in bed four weeks waiting for the swelling to subside. At the end of this time the patella was exposed by a longitudinal incision, the ends of the bones curetted and wired together. He remained in bed eight weeks after the operation, walked with crutches two months and a cane one month, wore a plaster-of-Paris cast two months and a leather cast two months. The bones did not remain in apposition, and about six months after the operation there was about three-fourths of an inch separation between the fragments. He has never been able to put his full weight upon the leg (as in going upstairs) since the first fracture, nor to flex or extend the leg to more than an angle of ten degrees. On

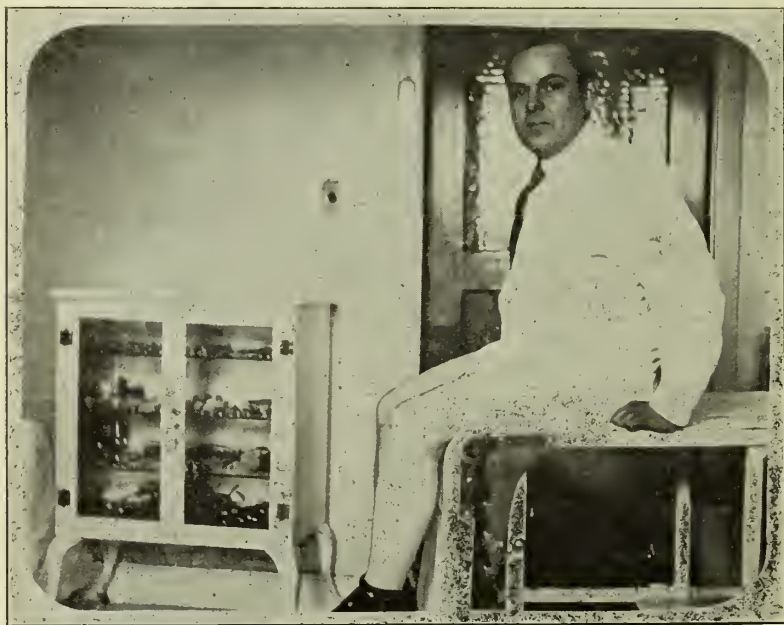


Fig. 5.—Showing the degree of voluntary flexion 9 weeks after operation.

January 12, 1908, fifteen months after the second fracture and twenty-seven months after the first fracture, while walking about the room at home his knee gave way and he fell to the floor, breaking the wires and what little union, if any, that had formed, and the knee began to swell rapidly.

When I first saw the patient he was lying on a couch, his knee covered with an ice-bag. The knee was greatly swollen and very painful. The fragments of the patella were separated three fingers' breadth. I at once took him to the Frances Willard Hospital, and as there had been

two unsuccessful attempts to secure union of the fragments I advised the removal of the patella. The patient was anesthetized (chloroform) and a long incision made along the inner border of the patella extending from the attachment of the patellar tendon to the beginning of the quadriceps extensor tendon (Fig. 1). The skin was reflected outward and the patella exposed. It was found to be soft and could be easily broken. No union had taken place since the last fracture fifteen months previous; the fragments were simply held together by the silver wire, and when the wire broke the fragments readily separated. The patella was removed and a modified Murphy operation done:

1. The tendon of the quadriceps extensor was cut entirely across from left to right at its origin from the muscle, as illustrated in Figure 2, the incision extending only half through the tendon antero-posteriorly.

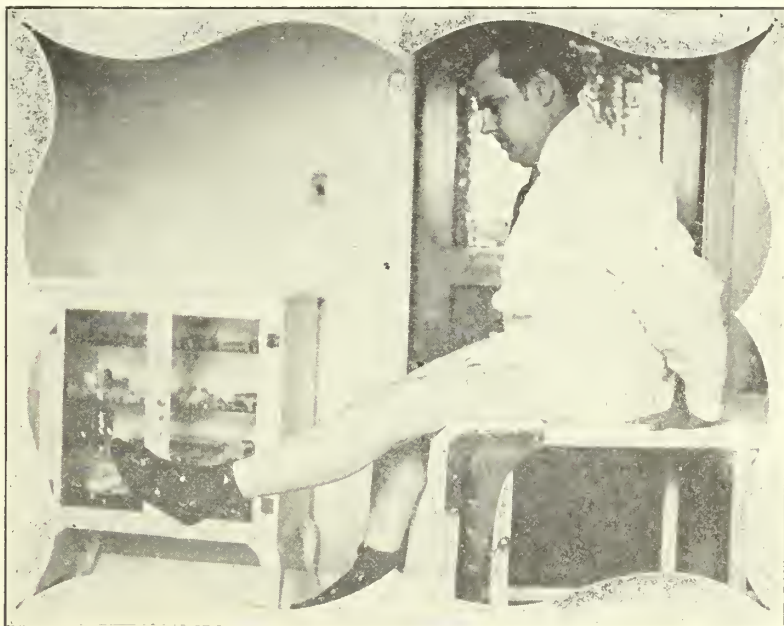


Fig. 6.—Showing the degree of voluntary extension 9 weeks after operation.

2. The tendon was now split to within a short distance, one-half inch, of its patellar attachment, and the flap thus formed reflected downward and sutured to the patellar tendon, as illustrated in Figure 3, using one heavy silk tension suture, the remainder of the suture material used being catgut.

3. A lateral view of the same is shown in Figure 4.

4. The skin was sutured with interrupted sutures of silkworm gut. An interrupted plaster-of-Paris cast was applied. The wound healed by primary union. The skin sutures were removed on the eighth day and the patient was allowed to get up in a wheel chair, was up on crutches in two weeks and back to his studies in three weeks.

5. Figures 5 and 6 show the amount of flexion and extension nine weeks after operation. There is absolutely no discomfort, and the patient says the limb is as useful as the normal one in every respect.

SUMMARY.

1. The patella is unessential for a flexible knee-joint.
2. The patella can be removed when ununited and perfect flexion and extension procured.
3. The patella should be removed when ununited or when repeated fracturing occurs.

4. When there is cartilaginous union and extension is lost, function can be restored by removing the patella and joining the quadriceps tendon to the patellar tendon.

5. By removing the patella the patient is confined to bed but a short time compared with the time required after strapping with adhesive, or after wiring—one week for removal and eight weeks for strapping in this case; one week for removal and twelve weeks for wiring in this case; away from work three weeks after removal and five months after strapping and five months after wiring.

6. I am indebted to Dr. J. B. Murphy, Chicago, for the idea (paper read before the Chicago Surgical Society, December, 1907, published in *Surgery, Gynecology and Obstetrics*, March, 1908).

7. Differences between Dr. Murphy's operation and mine:

(a) Dr. Murphy unites a lateral half of the quadriceps extensor, including some of the muscle, to the patellar tendon, while I unite the anterior one-half of the quadriceps extensor to the patellar tendon.

(b) Dr. Murphy sutures the muscles together, constricting the base of the flap. I do not suture the muscles together.

(c) The flap made by Dr. Murphy is almost circular and narrower than the space left vacant by the removal of the patella. The flap I make is flat, smooth and broad enough to readily cover the space made by the removal of the patella.

(d) Dr. Murphy operated for tuberculosis of the patella. I operated for ununited comminuted fracture of the patella.

72 East Madison Street.

THREE CASES OF CESAREAN SECTION, TWO VAGINAL AND ONE ABDOMINAL.

VICTOR J. BACCUS, M.D.

Member Chicago and Illinois Medical Societies, American Medical Association, member de l'Association de Chirurgie de France.

CHICAGO.

The vaginal Cesarean section has gained a lasting place in the operative obstetrical resources. It is recognized as a valuable additional method, and in well-selected cases it is the treatment par excellence. The great many cases reported, as well as the voluminous literature on the subject, are testimonial evidence of its great importance. As the literature of accouchement forcé was recently reviewed by H. F. Lewis, and

of the vaginal Cesarean section by R. Holmes, I shall limit myself to report these cases and make a few remarks on the operative technic.

Mrs. H. L., age 40. Always resided in the city. Family history: Niece of the patient has epilepsy. Personal History: Has had inflammatory rheumatism and typhoid fever. No history of pelvic diseases. Married at 39 years. Labor at full term began at 8 a. m. July 20, 1905. The pains became very severe in the afternoon and evening and part of the night; practically ceased during the early morning of July 21, became active again in the afternoon and lasted during the night, stopping completely at 10 a. m. of the following morning, thus slightly over a duration of fifty hours. The patient was seen by me at about 3 o'clock in the afternoon of the same day, thus fifty-five hours since the beginning of labor. A competent assistant was in charge of the case since the onset of the labor and reported its progress to me from time to time.

Examination of the Patient.—A weak woman, primipara, 40 years of age, slight murmur at the apex, lungs negative, very fatigued and almost totally exhausted. Pulse 120, temperature $99\frac{1}{2}$. Some of the small parts could be felt at the fundus. We were quite sure that the head presented. Fetal heart sounds audible but very rapid. The vagino-pelvic shows a normal but tight and resistant perineum, vaginal walls normal along conical cervix with practically no effacement or dilatation of the external os. Presenting parts at pelvic inlet.

Diagnosis.—Woman at full term of pregnancy. Uterine inertia, due to the mechanical interference caused by a rigid cervix. Extremely exhausted with endocarditis, and her heart showing the effects of fatigue.

Treatment.—Stimulation of the patient. Recommended accouchement forcé. If this procedure fails, advise vaginal Cesarean section. Dilatation by the method of Philander Harris, as well as the bimanual, both proved unsuccessful. The metal dilators were tried, with some damage inflicted to the cervix. When threatening serious injuries to the cervix appeared, the use of the instrument was desisted. The incision of the cervix was now carried out, but the hysterotomy, followed again by bimanual dilatation, did not stimulate any strong uterine contractions nor did it admit the introduction of forceps. The vaginal Cesarean section according to Dührssen method was now performed under rigid asepsis, forceps were applied, the head brought down to the perineum. Left deep episiotomy was now performed and the delivery completed; the placenta expelled by Credé. Repair of the uterine flaps and of the perineum, light vaginal tamponade and patient put to bed. Marked shock present, pulse ranging from 130 to 140, temperature 100.3. Saline infusion was necessary. Postoperative course: Slow convalescence, daily temperature from 100 to 101 for the first two weeks. The patient did not leave her bed until the beginning of the fourth week following the delivery. Child normal and doing well.

CASE 2.—Mrs. T. P., age 36. Has lived in Michigan until about two years ago. Since then has resided in Chicago. Family history negative. Personal history, married at 20. Has had four children, all healthy and living. The youngest is 4 years of age. Labors normal. Never has had any miscarriages, nor pelvic disease. About two and one-half years ago she had the cervix uteri amputated for multiple laceration. The operation was performed at the home of the patient in Detroit, Michigan. According to her statement, the postoperative convalescence was normal. She was up and about the twelfth day after operation. March 4, 1904, 4 p. m., I was called to the patient's home and from the attending midwife and partly from the patient herself I obtained the following history: Last menses occurred about June 10, 1903. The labor pains began in the afternoon of March 17, 1904; thus at full term, lasting all night and were particularly severe between 3 and 8 a. m. of March 18. Became weaker and finally stopped entirely at 10 a. m., to begin again at 2 p. m., lasting until about 11 p. m. of the same day. Weak repeated uterine contractions were felt in the morning of March 19, but none occurred since 12 a. m. She complained particularly of a painful, severe resistance low down in the pelvis during a labor pain. She remarked that there was abso-

lutely no progress made and all her efforts were in vain. She was examined only once by the intelligent midwife. My examination revealed a robust, well nourished woman, extremely fatigued and exhausted, restless and nauseated, with a pulse of 120 and a temperature of 100; chest negative. The abdomen presented the usual uterine ovoid, but the fundus reached considerably below the xiphoid cartilage. The abdomen was extremely tender on palpation and prevented a complete satisfactory external examination. The fetal sounds were audible. The vagino-pelvic findings were, the perineum showed evidence of an

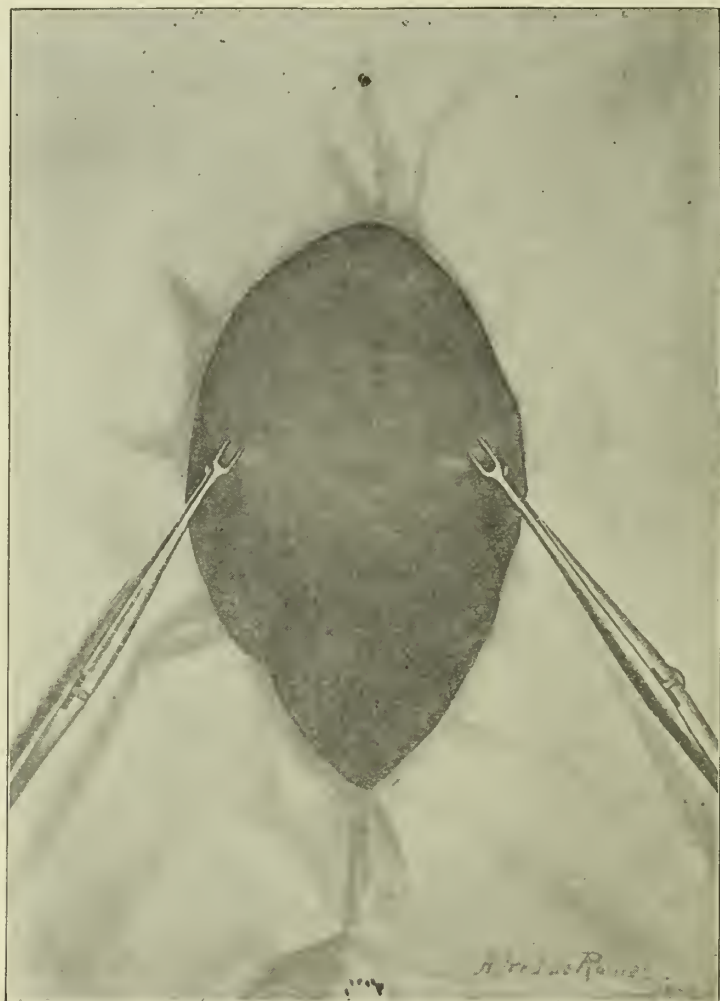


Fig. 1.—Black dot umbilicus. Uterus is seen in the abdominal incision, held against the abdominal wall by two vulsella. The abdominal wall divided is separated from the uterus by laparotomy towels, thus shutting off the peritoneal cavity.

old extensive laceration. The rectum is empty, the bladder is sunken in the pelvis much lower than it should be. There is no cervico-vaginal sulcus, but the vaginal walls terminated into a thick and hard ring of scar tissue, admitting the tip of the index finger. This is the new external os created by the amputation of the cervix. It has been displaced downward toward the vulva and it has

carried with it the anterior and posterior vaginal walls. Fortunately, the membranes were not ruptured. A head presentation could be made out and it had entered the superior strait.

Diagnosis. Uterine inertia due to the mechanical interference of a rigid ring of scar tissue, one and one-half inches in width. The pathological changes were brought about possibly by the trauma inflicted on the cervix by the previous labors, followed by inflammatory changes, resulting in destruction of the uterine muscle cells, proliferation of the connective tissue cells, maturation of this new connective tissue, and the formation of a firm round cicatrix, thus forming the new unyielding os. To what degree the amputation of the cervix contributed to these changes is difficult to say. Broadly speaking, we may state if primary union occurred, the operation need not to be considered as an etiological factor, while, if infection took place, it may be responsible for the entire pathological lesion, for many stitches are required to approximate accurately the uterine vaginal mucosa, and each needle puncture is an atrium for infection.

Treatment. The patient refused to be removed from her home to a hospital. Therefore, the work had to be performed under difficulties. Stimulation of the patient with quinin and strychnin and uterine massage. The successful dilatation of the cervix, manual or instrumental, was thought by us as a hopeless task, as cicatrix tears but does not dilate. However, both methods were tried and failed. The next procedure was the division of the cervix, anteriorly and posteriorly. Light tampon of the vagina with iodoform gauze. Waited two hours for uterine contractions to terminate labor. Not succeeding with the conservative methods and the condition of the patient becoming more alarming, the classical vaginal Cesarean section complicated by the absence of the cervix was the operation elected. Williams, H. F. Lewis, Dürhssen, Wirtz and others recommend this procedure in similar cases.

Operative technic. Lithotomy position. Chloroform anesthesia. Catheterization of the bladder. Rectum being empty did not require any attention. Thorough disinfection of the perineum, thighs, pubes and vagina, with soap, bichlorid, alcohol. Temporary closure of the anus with a silk purse-string suture; aseptic isolation of the field of the operation, and lastly, the painting of the perineum, vagina and cervix with a tincture of iodine. Assistants wore gloves, operator did not. Antero-posterior retraction. The separation of the bladder and rectum from the lower uterine segment was difficult on account of the anatomical landmarks being obliterated by the amputation of the cervix. This first step was performed with blunt point scissors with the finger as a guide and beginning the separation on the uterine side of the fibrous ring. Once the uterine margin separated enough to allow the application of the vulsellum; the bladder was easily separated from the uterus. Care exercised not to enter the peritoneal cavity. The posterior dissection of the uterine peritoneum was recognized as impossible, and therefore the diversion of the posterior uterine wall extended upward for about one and one-half inches, thus avoiding entering the peritoneal cavity. Two vulsella were now applied on either side of the median line of the anterior uterine wall. The latter was now divided to the extent of about six inches. Considerable hemorrhage took place from the margins of the uterine flaps, which was easily controlled by traction applied on the vulsella. The latter were now replaced by heavy silk ligatures, intended to prevent any delay after delivery, as well as to limit the manual maneuvers to a minimum, for this patient had no cervix. The forceps were not applied to the presenting head and a nine-pound living child extracted. The placenta was expelled immediately by Credé, careful coaptation of the uterine flaps with a No. 3 catgut. The vaginal and uterine mucosa united with catgut No. 1. Light vaginal tamponnade with iodoform gauze. The post-operative convalescence was entirely normal, patient being about two and one-half weeks after delivery.

CONCLUSIONS.

1. The metal dilators of the Bossi type are not bloodless methods of artificial dilatation.

2. Sellheim, Martin, Dürhssen, quoted by H. F. Lee, as well as Bacon and H. F. Lewis himself, consider the method dangerous. DeLee had three Bossi cases, all fatal (Lewis).

3. H. F. Lewis quotes Berdeleben, who reports six cases of Bossi with serious injuries to cervix, broad ligaments and lower uterine segments. The statistical material has not arrived at a point where the mortality to the mother and child can be accurately defined.

4. The vaginal Cesarean section, says Dürhssen, is without danger to mother and child. This is not so, for all operative measures carry a mortality. The anesthesia alone plus the infection and the danger of hemorrhages, as well as the injuries which may be inflicted to bladder or rectum, are sufficient grounds for such a major operation to carry a mortality.

5. The vaginal Cesarean section is an ideal method to accomplish delivery in well selected cases. It should leave less later bad uterine complications, for divided uterine flaps heal better than the crushed and lacerated cervix by the Bossi dilator.

CASE 3. Conservative abdominal Cesarean section. Mrs. J. R. Age 32. Residence, Chicago. Family history, negative. Personal history: Has had typhoid fever when 16 years of age. Married at 20. Has had four children, all living and in good health, the youngest being born ten years ago. Labors all normal, never any miscarriages nor pelvic diseases. Was a widow at 28. Married again at 29. One year later was delivered at full term of a normal child, weighing between nine and ten pounds, but craniotomy had to be performed. At 32 became pregnant again and presented herself for examination at about the fourth month of pregnancy, stating her anxiety of giving birth to a living child. The same desire was also emphasized by her second husband. A complete examination of the patient at this date disclosed a tumor situated in the right lateral wall of the pelvis, apparently originating from the bony or cartilaginous structures of the pelvic wall. Hard to the touch, and fixed. This tumor mass encroached considerably into the pelvic cavity, possibly to the extent of one to one and one-half inches; undoubtedly, it furnished the indication for the craniotomy performed two years previously. The patient was in good health, devoid of pains. The symptoms made it very probable that the nature of the tumor was of a benign character. She was not informed of the presence of this growth, but was requested to report monthly. The labor occurred at the normal period. My monthly examinations during the course of pregnancy as well as the one at the time of labor informed me that the tumor had not increased in size, although it was too large to permit a successful delivery. The true condition of the patient was now explained to her husband in her presence and the methods of delivery applicable to her condition were discussed. Craniotomy was suggested, but was not accepted. Pubiotomy and symphyseotomy, as they offered only a slight chance of delivery with a living child, were also rejected. Therefore there remained only for our consideration Cesarean section, which offered the best possible method of delivery with a living child and a living mother. She was removed to the Policlinic Hospital and operated successfully June 10, 1906, child living, weighing nine pounds.

Operative technic. Median line incision extending from an inch above the pube to nearly the umbilicus. Skin, subcutaneous tissue and fascia and perineum divided. Isolation of the abdominal walls from the uterus by means of

laparotomy towels. The bladder recognized and two vulsella (Pean) applied to the uterus on either side of the median line, (see Plate I) and slight traction exerted on the vulsella by the assistant, thus keeping the anterior wall of the uterus firmly against the abdominal wall. Median uterine wall incision, five to six inches in length. The left hand now introduced into the uterine cavity, seizing the feet of the child and the delivery of same, and handing him to the assistant in readiness. Removal of the placenta. As these maneuvers were executed, two important little details were carried out, one by the assistant and another by the surgical nurse. The first was to exert slight traction on the

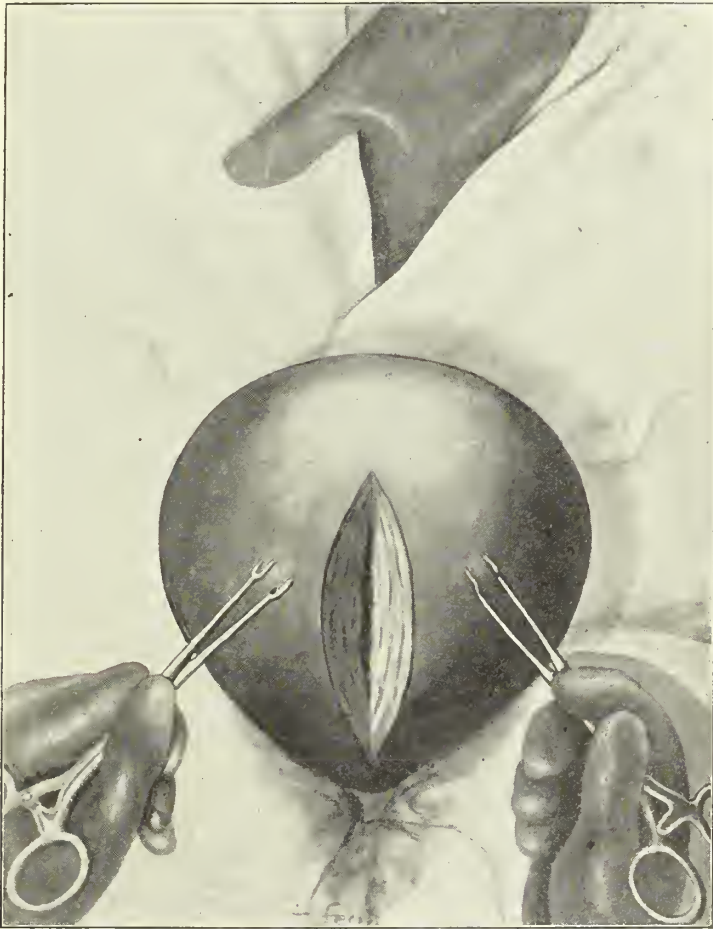


Fig. 2.—The child and placenta have been delivered. The uterus is shown drawn out of the abdominal cavity. The hand is tucking in a towel to prevent escape of intestines. The drawing should show the two vulsella in the right hand of the assistant, thus, with his left hand free, he is ready to control the circulation if necessary by grasping the uterus at lowest point possible.

uterus, by means of both vulsella held by the right hand of the assistant, thus delivering the uterus out of the abdominal cavity and to seize the uterus by the assistant's left hand at the lowest part of the uterine body, thus controlling the circulation, if necessary (Plate II). The step carried out by the nurse was to follow the uterus as it was delivered through the median incision, with a

thick towel preventing the intestines from escaping through the abdominal incision. No serious bleeding took place. Repair of the uterine incision with a No. 3 catgut interrupted suture, the first layer being introduced into the uterine wall just below the peritoneum and the next layer suturing the peritoneum only. Uterus returned and the closure of the abdominal incision by means of the longitudinal wires, one for the peritoneum and one for the fascia and one for the skin. The tumor was not removed and appeared to be a chondroma.

Post-operative Course. Temperature and pulse slightly elevated for a few days, then normal in every way. Rapid recovery, the patient leaving the hospital the ninth day after operative date.

The three cases were re-examined about two months ago and are in perfect health. In Case 1 there is only a slight scar of the cervix which shows the site of the incision. The cervix is normal in every way.

ADVANTAGES OF THE TECHNIC.

1. Small abdominal incision, hence less chance for hernia, less time to close abdominal wall.

2. Avoidance of uterine manipulations, thereby the uterine walls and the child not being liable to injury, for squeezing the uterus through too small an incision may provoke a thrombus and embolism, or detach the placenta, causing the death of the child.

3. The assistant is in a position to control circulation in an instant if it becomes necessary.

4. Reduces the danger of infection, since the soiling of the abdominal cavity is prevented.

5. It allows the uterus on the surface of the abdominal wall, where a better coaptation can be executed.

6. It shortens the duration of the operation, therefore lessening shock. It should reduce the mortality.

7. The uterine wall should be incised and not torn with the fingers, since that is not a source of hemorrhage. The placental site is the source of bleeding when it occurs.

THE EXUDATIVE DIATHESIS.*

C. G. GRULEE, M.D.

CHICAGO.

The exudative diathesis is, as the name implies, a pathological condition rather than a clinical entity. As the originator of the name, Czerny, of Breslau, states, it is chosen in preference to the term scrofulosis more because the latter implies a tubercular disease than for any other reason. And yet as Czerny himself describes the affection, it is much more comprehensive than our present ideas of scrofulosis, the manifestations of the condition are more distinct, and especially in infancy the conception is decidedly different.

In the exudative diathesis we have an inherited condition which may show its earliest manifestations in the first weeks of life and which, as a rule, continues in a more or less severe degree until puberty or even

*Read before the South Side Branch of the Chicago Medical Society, Feb. 20, 1908.

after. The severity of the clinical manifestations depends greatly upon the severity or extent of the condition in the parents, but the most potent factor is the hygienic or rather unhygienic conditions under which the child lives, i. e., as to its exposure to infections. Thus we most often encounter it in those who have moved from the pure air of the country into the germ laden air of the city, and in the poorer classes, especially if they are crowded together. The inherited condition is essentially a predisposition to infection of almost any type and seems peculiarly to reduce the resistance of the skin and the respiratory tract.

Two types of babies are affected—the one thin and frail, the other fat and apparently robust, and strange to say, it is the latter type in which the exudative diathesis is peculiarly severe and in which we encounter the most striking and disastrous effects of infections.

The first sign of the affection comes when we find that in spite of sufficient and proper breast milk for food the child does not attain its initial weight for two to four weeks after birth, but at the end of that time it gains rapidly, never, however, quite attaining the normal amount. This sign occurs naturally only in the former of the two types of children.

The geographical tongue is a certain indication if present and is the only one of the symptoms which comes and goes independent of the intercurrent infection. Very interesting are the skin manifestations. The "cradle cap," a yellowish gray desquamation occurring in the scalp of infants in the region of the large fontanelle, is one of the first to make its appearance. Should the child be overfed, and especially if the food be rich in fats, this innocent desquamation very often becomes a marked seborrhea and only disappears with regulation of the diet or the course of time. Another symptom is that of milk eczema. This shows as a sharply-outlined erythema on the cheeks, usually extending well toward the ear and having on its surface fine silvery scales. If digestive errors such as those above mentioned are allowed we encounter here soon a facial eczema, which often does not confine itself to the cheeks but spreads to the forehead and sometimes the ears. Local applications have very little effect upon these conditions, but should the system of these infants be suddenly depleted by a severe diarrhea the skin eruption disappears, only to return with an increase in food. Czerny includes strophulus among the skin manifestations of the condition, but states that the degree of irritation depends not upon the kind or extent of the eruption but upon the nervous temperament of the child.

Another skin symptom is what, for want of a better term, may be called "intertrigo." This occurs most often behind the ears or under the arms. That occurring in the groin may be more severe in type in these cases, but is not regarded in itself as a symptom of the condition.

Of most interest to the general practitioner, however, are the respiratory symptoms. Before I enumerate these let me say that the chief characteristic of all of these is their frequent repetition and that Czerny does not regard the simple appearance of one of these without repetition as sufficient evidence of the exudative diathesis. In infants he mentions

first asthma. This he regards as an acute bronchitis, the severity of the asthmatic symptoms depending on the nervous irritability of the child.

But most striking of all is probably the opinion which he expresses in regard to lymphatic enlargement in the pharynx. These he regards as the result of repeated irritation due to recurrent infections of the mucous membrane and not as in themselves predisposing to infection. In other words, he regards the mucous membrane as the port of entry of the infection and the place where it primarily occurs, and holds the lymphoid tissue as only secondarily involved. Therefore, he does not advise the removal of the lymphoid tissue from the pharynx as a means of reducing infection, but only as necessary to take away a mechanical obstruction. Hence in only a few cases would he regard removal of the tonsils as of material benefit to these patients if proper hygienic and dietetic rules are not observed. In this way he accounts for the frequent failure of operations on adenoids or enlarged tonsils to produce the desired result, i. e., freedom from infection.

The enlarged cervical glands he attributes to repeated infections of the parts drained by these and the infection with tuberculosis as secondary, depending in the first place on the frequent irritations of the pharyngeal mucous membrane, and in the second on the lowering of the general resistance. Another respiratory symptom is pseudo-croup, a trouble which proverbially occurs in fat, apparently robust children.

Aside from the geographical tongue there are no symptoms which refer to the gastrointestinal tract. The fetor ex ore is the result of decomposition in the crypts of the tonsils, and the anorexia is dependent on the nervous condition of the child. In the eyes we meet with blepharitis and phlyctenules, and in the urogenital system vulvitis and balanitis.

The three principles of treatment are regulation of diet, avoidance of infection and training of the nervous system.

The first of these is best regarded under two heads: the diet of the first year and the diet after the first year.

During the first year we must *avoid overfeeding and keep the amount of fat in the food reduced to a minimum*. These children can take care of starch much earlier than the healthy child, and carbohydrates in reasonable amounts seem to benefit the condition. If a child is on the breast (a fat rich food) it should not be removed because of the immunity or increased resistance to infection conferred by the natural nourishment. After the first year the diet should be largely vegetarian. Milk should never be given in large quantities, no eggs, and rare meat only in small amounts.

To avoid infections, life in the open air is advisable. These children should always be away from adults who have repeated infections of the respiratory tract. Since the nervous system in children with the exudative diathesis is especially prone to be affected, they must have their minds removed as far as possible from their own complaints. The best way to attain this end is to require them to play with children not of their own family and to be away from the anxious solicitations of their elders. All drugs are worse than useless, for they do not build up the

resistance of the patient and by calling his attention to his disorder produce an undesired effect on the child's nervous system.

My personal experience is not so great that I can either affirm or deny all the statements made by Czerny in respect to the exudative diathesis. However, what I have seen has led me to believe that a thorough knowledge of his ideas on this subject is of inestimable value to the medical practitioner. It has been most valuable to me from the standpoint of infant feeding, and here at least my experience has tended to confirm the ideas of the author. As to the affections of the respiratory tract and especially of the lymphatic hyperplasias I can only say that to some the indiscriminate removal of tonsils and adenoids has seemed unnecessary, and that it is the general practitioner and not the specialist who sees the after-effects and whose opinion in this regard is the most valuable. Undoubtedly in a large percentage of cases the relief afforded by removal of the pharyngeal hyperplastic lymphatic tissue is not accompanied by the desired results, for we frequently see the rapid reappearance of the enlarged tonsil and no cessation in the repeated attacks of inflammation. If the hyperplastic lymphatic tissue were the portion of the pharynx which predisposed to infection, why would its removal not in every case bring about a freedom from attacks of pharyngitis? On the other hand, how do we know that many of these cases if subjected to a rigid hygienic and dietetic treatment would not get well without operation, and how many who are operated on owe their ultimate recovery rather to the physician's instructions as to hygiene than to his operative skill?

I fear that I have laid too much stress on this phase of the question to the detriment of the others. Allow me to repeat that to me the most important point brought out by Czerny is that in regard to the nourishment fitted to these children in the first and second year of life, since this is the one thing which affects vitally the very existence of the child.

The objection has been made that the conception of the exudative diathesis is too broad and too apt to be used as a "catch-all" to be really of practical value. This is only true if we regard it as a disease. If we once properly conceive of it as a condition and to the manifestations of its presence as the real disease, it ceases to be so complicated and proves of much value.

103 State Street.

ILLINOIS MEDICAL JOURNAL

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JUNE, 1908.

ENTERTAINMENT OF VISITORS TO THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT CHICAGO.

At the Peoria meeting the House of Delegates, on the recommendation of the Council, appropriated \$1,000 for a headquarters to be maintained during the Chicago meeting of the American Medical Association. All members of the American Medical Association, and especially the Illinois members, will be welcomed at this headquarters, and it is expected that a buffet lunch or some such entertainment will be provided. This headquarters will probably be located in the Stratford Hotel. The committee having this in charge are ex-President Wm. L. Baum, Robert E. Preble and George Edwin Baxter of Chicago. Every member of our state society should make his first visit to this headquarters, register and secure a particular badge indicating that he belongs to the state in which this meeting is being held, and when thus designated should exert himself for the reception and entertainment of the visitors from other states.

THE PEORIA MEETING.

The annual session which has just closed at Peoria will go down in history as one of the most successful meetings of the society ever held. The weather was ideal and the entertainment provided was splendid. While the attendance was not as large as some other meetings, it was good and close attention was given to the scientific work of the society. Important matters were considered by the Council and House of Delegates, of which we will speak more fully in our next issue. The following officers were elected and committees appointed: President, James Wiley Pettit, Ottawa; first vice-president, James L. Wiggins, East St. Louis; second vice-president, E. M. Echard, Peoria; secretary, E. W. Weis, Ottawa; treasurer, E. J. Brown, Decatur. Section One, chairman, J. L. Miller, Chicago; secretary, C. A. Wells, Quincy. Section Two, chairman, D. N. Eisendrath, Chicago; secretary, H. N. Rafferty, Robinson. Committee on Public Policy, Robert E. Preble, Chicago; Carl E. Black, Jacksonville, and Wm. L. Baum, Chicago. Committee on Medical Education, Frank N. Norbury, Jacksonville; J. F. Percy, Galesburg, and C. L. Mix, Chicago. Committee on Medical Legislation, L. C. Taylor, Springfield; M. S. Marcy, Peoria, and J. V. Fowler, Chicago. Delegates to American Medical Association, E. W. Weis, Ottawa; R. T. Gillmore, Chicago; J. F. Percy, Galesburg, and L. A. Nickerson, Quincy; alternates, T. H. Renn, Chicago; W. B. Helm, Rockford; D. G. Smith, Elizabeth; William Parsons, Chicago; W. T. Robinson, Chicago Heights; T. J. Pitner, Jacksonville; L. C. Taylor, Springfield. Councilors, J. H. Stealy, Freeport; C. C. Hunt, Dixon; W. K. Newcomb, Champaign. Place of meeting, Quincy.

THE AMERICAN MEDICAL ASSOCIATION.

The Fifty-ninth Annual Session of the American Medical Association convenes in Chicago, June 2, 3, 4 and 5, 1908. Twenty-one years have elapsed since the State of Illinois has had the opportunity of welcoming this Association at the time of its annual meeting. That state, and city in particular, may congratulate itself for the opportunity of being host to such a gathering of medical men. That an organization of this character is not only national in its scope, but national in its influence, is self-evident. The good which results from such gatherings can be measured only by the limitations of the influence of the individual members who attend the session. The impetus and stimulus to great work in the community which is fortunate enough to entertain this body of men, can not be estimated. Not only is there great scientific value to the medical profession, but of equal importance is the benefit which obtains to each individual from intimate and personal contact with his fellow practitioners.

A program of rare attractions has been provided for this meeting. Representative men in the medical profession, not only in the United

States but from foreign countries, will be present and contribute from their knowledge for the benefit of their medical brethren and through them to the public. Preparations have been made by the committees for a great variety of entertainments. Social attractions, clinics, scientific exhibits, alumni reunions, and special entertainments for the wives and families of the attending members have been amply provided for. Our state society has generously contributed not only in funds but in individual and united effort on the part of the members to give a sincere welcome from the Illinois State Medical Society to all of the visitors. To those of our subscribers who are not members of the American Medical Association but who may desire to register at the Chicago meeting, we desire to call attention to the fact that they will be permitted to register, provided they have the proper credentials, and upon payment of the dues of the American Medical Association. The credentials necessary consist of a certificate showing that the physician is a member in good standing of the Illinois State Medical Society. These credentials should be presented at the Bureau of Registration, together with the sum of \$5.00 for the annual dues, which likewise entitles him to *The Journal of the American Medical Association*. He is then given a badge which tenders him the privileges of the entire session. We again call attention to the headquarters of the Illinois State Medical Society, which will be open at Stratford Hotel, at which all members of our society are urged to register and receive their badge. Chicago may be rightly called the home of the American Medical Association. The permanent offices of *The Journal* and secretary are located in this city. THE ILLINOIS MEDICAL JOURNAL joins in extending a most hearty welcome to this organization in its home state.

Correspondence.

MORE ABOUT THE LINCOLN INSTITUTION BY A FORMER SUPERINTENDENT.

WILBUR HOME AND SCHOOL FOR BACKWARD AND DEFECTIVE CHILDREN. C. T. WILBUR, M.D., SUPT.

KALAMAZOO, MICH., April 25, 1908.

To the Editor:—I have read your editorial with interest. I think you presented the matter very fairly and about as it was. The institution, when I left it, was said by experts to be the best of its kind in the world; one renowned expert went all over the world, and said so. One of the many things that has militated against its progress, and has been instrumental in its degradation, has principally been the indifference of everybody to the elevation of the defective ones of this class and the political tendency of the times, especially in Illinois. The spoils system and the opportunity offered to governors like Altgeld, Tanner and Yates and such men, who look upon institutions as only places to put their friends or political workers, is responsible in a great measure for it, but the worst

feature of all is the tendency to create immense congregations of defectives under one management, so that individual cases are lost sight of and droves and herds of people are aggregated without any thought of benefit to be derived from such aggregation, only to relieve those who wish to be relieved of burdens, without much thought or care for the welfare of the defective, but only of the getting them together so they can be kept with as little expense as possible to the public. The system, too, is such that the money is grafted away to help politicians and others get away with the people's money. A man who attempts to save to the state money is looked upon with dislike, as it is deemed penuriousness, and liberality is a source of popularity.

The great trouble is, however, that all state institutions are too large. There is a limit to one man's capacity to manage such an establishment. One source of my unpopularity was my known determination to suppress any effort to enlarge the institution, and to have several organized in different portions of the state so they could accommodate the population of the different portions of the state where friends could look after them by visitation and know something about them without going such distances to visit them. Large institutions can not be properly managed and inmates can not be properly cared for in herds. Individual attention is what defectives require if they are to be benefited. My wife and I were interested in our work, and I gathered around me faithful teachers and caretakers who did do faithful service. Your editorial was very well and thoughtfully written and did justice to the subject so far as it went, but I suppose it never occurred to you that all institutions were altogether too large for faithful supervision. The average man is too lazy and incompetent to do his duty in such matters. At Lincoln a superintendent has hardly had time to learn anything about the business before he was bounced. Yours truly,

C. T. WILBUR.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

The Adams County Medical Society met in regular monthly session Monday, May 11, in the Elks' club rooms, with the newly elected president, Dr. J. B. Shawgo, in the chair, and an attendance of 25 physicians. The committee on the revision of the constitution and by-laws to make them correspond to that of the State Association made their report and the adoption of the by-laws followed. It was voted to place in the hands of each member a copy of the "Principles of Ethics." The president announced the committees for the current year: Program and Scientific Work, Drs. C. A. Wells, Henry Hart, and Charles E. Ericson; Public Health and Legislation, Drs. E. B. Montgomery, Otis Johnston, and J. H. Rice; Social Entertainments and Refreshments, Drs. D. M. Knapp, J. A. Koch, and W. W. Williams; Library Committee and trustees elected by the society, Drs. F. M. Pendleton, L. B. Ashton, Kirk Shawgo, Jefferson H. Heitman, of Tioga, and Christian C. Haxel, of Fowler, were elected to membership. The applications of Dr. Joseph H. Bloomer, city, and Dr. J. B. Ross, LaPrairie, Ill., were received and referred to censors. The most important action of the society was the decision to enter into a contract with Dr. Carl E. Black and the Morgan County Medical Society to furnish and index a splendid list of current medical publications. Twenty-three of the physicians had luncheon together at Hotel Newcomb. In the afternoon, Dr. W. W. Williams, Quincy, gave an able paper on the subject, Carcinoma of the Stomach, outlining the surgical treatment of the same, and presenting a splendid chart of the differential diagnosis of the same. The paper was quite generally discussed and appreciated by the society.

CLARENCE A. WELLS, Secretary.

BELLEVILLE MEDICAL ASSOCIATION.

The Belleville Medical Association was resuscitated April 14, 1908, after a sleep of some two years. Dr. Gunn, the president, conceived the idea of trying to revive it, and, knowing the well-established fact that to reach a man the stomach route is usually the best, got a few members together at a special meeting and passed a resolution for a reunion at a banquet. The following members were present: B. E. Twitchell, J. W. Twitchell, George Hilgard, A. M. Scheel, Hugo E. Wangelin, C. H. Starkel, A. L. Reuss, Charles P. Renner, A. B. Gunn, Ed M. Irwin, C. G. Rayhill, W. West, H. G. Hertel, C. R. Huggins, E. P. Raab, J. G. Massie, Hy. Reiss and F. E. Auten. The absentees were due to illness. An enjoyable evening was spent and enthusiasm prevailed. While at the banquet table the president asked for suggestions from the members relative to the best interest of the society. Every member was called upon individually for his opinion. They all responded, and the suggestion of postgraduate work at stated meetings seemed to prevail, and hereafter such work is to be carried out. Among other suggestions was one by Dr. Starkel, "that the subject of tuberculosis and the feasibility of establishing a sanitarium for its treatment be taken up." Belleville being very fortunate in having an excellent and beautiful hospital which, with little effort, could be converted into the proposed sanitarium. The doctor had a conference with the mayor, who had pledged him his support for the movement. A special committee, consisting of Drs. Starkel, Gunn, Irwin, Auten, Reiss, Raab, Hilgard and Twitchell, was appointed to take up the matter and push it through. Belleville, through the efforts of its medical association, will surely in the future have a sanitarium for the treatment and prevention of tuberculosis as good as can be found in the state. It thereby will aid and do its share to stamp out the "white plague." After a vote of thanks to the president, the association adjourned, all the members expressing themselves of having a most enjoyable and profitable evening.

BRAINERD DISTRICT MEDICAL SOCIETY.

The thirty-second annual meeting of this society was held at Lincoln, April 30, 1908. Four new members were elected, viz.: C. O. Burke, Atlanta; O. G. Nuehlmann, Pekin; C. B. Caldwell, Lincoln; C. J. F. Rochow, Lincoln. The election resulted as follows: President, J. M. Wilcox, Clinton; first vice-president, Don W. Deal, Springfield; second vice-president, J. W. Bozarth, Mt. Pulaski; third vice-president, C. W. Cargill, Mason City; secretary, H. S. Oyler, Lincoln; treasurer, C. C. Reed, Lincoln; board of censors, Irving Newcomer, Petersburg, B. W. Hole, Springfield, and C. M. Noble, Bloomington. The next meeting will be held in Clinton. Papers were read as follows: Differential Diagnosis of Renal Hemorrhage, with Report of Case and Treatment, Dr. S. E. Munson, Springfield; Suggestive Therapeutics, Dr. T. D. Cantrall, Bloomington; Improved Technic for Correcting Malposition of the Uterus, Dr. D. W. Deal, Springfield; Lessons from Eight Fatal Cases of Labor, Dr. A. G. Campbell, Clinton.

CARROLL COUNTY.

The Carroll County Medical Society met at Mt. Carroll and the members listened to an interesting program, which included papers as follows, the report being made by Dr. H. S. Metcalf, secretary: Dr. G. W. Johnson, of Savanna, read a paper, taking for his subject Dr. Oliver Wendell Holmes, who was Dr. Johnson's old teacher at Harvard. It was in part as follows:

DR. OLIVER WENDELL HOLMES.

G. W. JOHNSON, M.D., SAVANNA, ILL.

Dr. Oliver Wendell Holmes, son of Rev. Abiel Holmes, was born Aug. 29, 1809, in a house which once stood on Cambridge Common, Mass., where preceding generations of the family had lived before, and during revolutionary times, and his ancestral tree shows such noble strains that there is little wonder at the production of the brilliant and talented subject of our sketch. The original Holmes, the great-grandfather of the professor, was John Holmes, who joined a colony and settled in Woodstock, Conn., in 1686; his grandfather was a physician who served as surgeon in the revolutionary army.

Professor Holmes evidently took great pride in his ancestry, as in his *Autocrat* he says: "I go for the man with the family portraits against the one with the 25-cent daguerreotype, unless I find out that the last is the better of the two; I go for the man that inherits family traditions and the cumulative humanities of at least four or five generations; above all things, as a child he should have tumbled about in a library; all men are afraid of books who have not handled them from infancy."

Graduating from Harvard College in 1829, he studied law one year, after which he decided to take up the study of medicine. After six years, part of which time was spent in hospitals in Paris and Edinburgh, he took his degree in medicine from Harvard in 1836. In 1839 he was appointed professor of anatomy and physiology in Dartmouth College, which he resigned in 1847 to take the same chair in his alma mater, filling the same continuously until 1882, when he gave up his professional work and was made emeritus professor and gave his attention wholly to literary work.

Dr. Holmes' personality was by no means commanding; of stature below the average he always impressed me with the idea of unusual preponderance of weight below; head not above the average in size, narrow and sloping shoulders, body somewhat spare, and from the large size of the pantaloons then in style, and rather oversized feet, would almost suggest that the big end of the man was down. It always appeared to me, too, that he was not thoroughly in sympathy with his subject, anatomy, and really it seemed illy fit for such a man as he to demonstrate the repulsive cadaver before him, and as a teacher of anatomy I never considered him the equal of others I might name, and think he realized as much himself. In speaking of the teaching of practical anatomy, I remember he at one time made reference to the superior ability of Professor Ford, then hold-

ing the same chair in the University of Michigan, and said of him: "Whoever sits under the teaching of Corydon L. Ford and fails to learn anatomy, his head sneds knowledge as an india rubber coat sheds rain."

He was always welcomed at his lectures with enthusiastic cheers and we always hoped and expected that he would wander occasionally from the prosy subject before him, and ramble off at a tangent in witty anecdote, humorous or pathetic recital, which would hold the class spellbound, and during such times his face would assume a happy, almost illumined expression, and his beautifully chosen sentences flow so rapidly that such deviations from the subject were always hailed with delight by all. In describing the bones of the skull he asked why it was called the temporal bone, because the first gray hairs are usually found about the temple, indicating age, time, tempus, temporal. For the cupped depression in the wrist alongside the tendon of the extensor longus pollicis he had a name I can not now recall, but it was Greek or Latin for snuffbox, so named because snuff-taking medical students whose hands were soiled were in the habit of shaking some snuff into this little depression and snuffing it thus.

When Morton gave his first real demonstration of the effects of the inhalation of ether in the fall of 1846, Professor Holmes was among those present, and then and there coined the new word, "anesthesia," to describe the condition resulting from its use, a name and condition three years younger than I.

I will quote a few lines from his medical teaching: "There is one part of their business that certain medical practitioners are too apt to forget, viz.: that what they most of all should try to do is to ward off disease, to alleviate suffering, to preserve life, or at least to prolong it if possible. It is not of the slightest interest to the patient to know whether there are three or three and a quarter inches of his lungs hepatized; his mind is not occupied with thinking of the curious problems which are to be solved by his own autopsy, whether this or that strand of the spinal marrow is the seat of this or that form of degeneration; he wants something to relieve his pain, to mitigate the anguish of his dyspnea, to bring back motion and sensibility to the dead limb, to still the tortures of neuralgia. An old woman who knows how to make a poultice and how to apply it, and does it just when and where it is wanted, is better—a thousand times better in many cases—than a staring pathologist who explores and thumps, and doubts and guesses, and tells his patient he will be better to-morrow, and so goes home to tumble over his books and make out a diagnosis." "What is the honest truth, by far the largest number of diseases which physicians are called upon to treat will get well at any rate, even in spite of reasonably bad treatment; of the other fraction, a certain number will inevitably die, whatever is done, there remains a small margin of cases where the life of the patient depends upon the skill of the physician. Drugs now and then save life, they shorten diseases and relieve symptoms, but they are second in importance to food, air, temperature, and the other hygienic influences. Sensible men in all ages have trusted most to Nature."

But well known as Holmes was in the medical profession, it is in his literary productions that lasting fame will long endure. There are few authors whose books have so fascinating interest, whose descriptive faculties have been so exact, and whose comparisons so apt. Some have criticized his writings, because he adopts so many phrases and terms borrowed from his medical lore, but to physicians especially such allusions are always recognized as peculiarly apt and ingenuous. On taking leave of his chair in Harvard in 1882, as he entered the anatomical room, one of his class came forward and presented him with a loving cup, on one side of which was engraven the happy quotation from his own writings: "Love bless thee, joy crown thee, God bless thy career." So deeply affected was he by this unexpected tribute of affection that, overcome, it made him speechless, but he afterward assured them his trouble was aphasia, not acardia; his heart was right, but his tongue forgot its office.

At the Holmes breakfast, given him by the publishers of the *Atlantic Monthly* on the 29th day of August, 1879, in commemoration of his seventieth birthday, James T. Fields submitted the following fairy tale: "Once upon a

time a company of good-natured fairies assembled for a summer moonlight dance on a green lawn in front of a certain picturesque old house in Cambridge. They had come out for a midnight lark, and as their twinkling feet flew about among the musical dewdrops, they were suddenly interrupted by the well-known figure of the village doctor, which, emerging from the old mansion, rapidly made its way homeward.

"Another new mortal has alighted on our happy planet," whispered a fairy gossip to her near companion.

"Evidently so," replied the tiny creature, smiling good naturedly on the Doctor's footprints in the grass.

"That is the minister's house," said another small personage, with a wink of satisfaction.

"Perhaps it is a boy," ejaculated fairy No. 1.

"I know it is a boy," said fairy No. 2. "I read it in the Doctor's face when the moon lighted up his countenance as he shut the door so softly behind him."

"It is a boy!" responded the fairy queen, who always knew everything, and that settled the question.

"If that is the case," cried all the fairies at once, "let us try what magic still remains to us in this busy, bustling New England; let us make that child's life a happy and famous one if we can."

"Agreed," replied the queen, "and I will lead off with a substantial gift to the little new comer. I will crown him with cheerfulness, a sunny temperament, brimming over with mirth and happiness."

"And I will send your Majesty's gift to the little man," said a sweet-voiced creature, "and tender him the ever-abiding gift of song. He shall be a perpetual minstrel to gladden the hearts of all his fellow mortals."

"And I," said another, "will shower upon him the subtle power of Pathos and Romance, and he shall take unto himself the spell of a sorcerer whenever he chooses to scatter abroad his wise and beautiful fancies."

"And I," said a very astute-looking fairy, "will touch his lips with Persuasion; he shall be a teacher of knowledge, and the divine gift of eloquence shall be at his command, to uplift and instruct the people."

"And I," said a quaint, energetic little body, "will endow him with a passionate desire to help forward the less favored sons and daughters of earth, who are struggling for recognition and success in their various avocations."

"And I," said a motherly-looking, amiable fairy, "will see in due time that he finds the best among women for his companionship, a helpmeet indeed, whose life shall be happily bound up in his life."

"Do give me a chance," cried a beautiful young fairy, "and I will answer for his children that they may be worthy of their father, and all a mother's heart may pray that Heaven will vouchsafe to her."

And after seventy years have rolled away into space the same fairies assembled on the same lawn at the same season of the year to compare notes with reference to their now famous protege. And they declared that their magic had been thoroughly successful, and that their charms had all worked without a single flaw.

Those who have not read his books, more especially "The Autocrat of the Breakfast Table," "The Professor at the Breakfast Table," "Elsie Venner," "The Guardian Angel," and many others both in prose and rhyme, have certainly missed some rare intellectual treats.

If this paper is not too long I beg to give some few selections more especially from "The Professor at the Breakfast Table." It is difficult to make selections, as one needs to have acquaintance with the context to understand just how his moralizings come in and fully appreciate them. I shall not attempt any of his poems. Doubtless all remember the logic of his "One Hoss Shay," "Old Ironsides," which thrilled us in our boyhood days, the exquisite beauty of the "Chambered Nautilus," which he considered his best poem, and score of others. —[Autocrat, pp. 162-193.]

His death occurred Oct. 7, 1894, two months after he had expressed himself as "being 85 years young." He had for some time been troubled with asthma, probably of cardiac origin, but was only confined to his home but a few days before the end. Painlessly and peacefully, with all the dear ones of his family about him, his life flowed away like the ebbing of a tide. His life nearly spanned the nineteenth century, with the advancement of which he kept fully abreast, and he was laid to rest at Mt. Auburn beside his wife among the elms he loved so well.

Dr. C. W. McPherson's paper on Pneumonia awakened much interest and some discussion.

PNEUMONIA.

C. W. MCPHERSON, M.D., HAZELHURST, ILL.

Pneumonia is an acute general infectious disease, with toxemia and exudate in the alveola. Etiology: It is the most widespread and the most fatal of all acute diseases, with the exception of consumption. Observed in all ages. Of the predisposing causes, age ranks first. Cold has little or no influence on it, as it is unknown in the polar regions, common in the warmer climates or it increases from pole to equator.

Symptoms.—The disease sets in abruptly, as a rule, with a chill lasting from a few minutes to three hours. Fever has already begun, and on examination you will find all the physical signs of a full-fledged case of pneumonia.

Complications.—Pneumonia has very few complications compared with other diseases and fewer sequelæ. Pleurisy is invariably present when the disease comes to the surface, and I would not call it a complication unless there is an exudate and effusion. I do not believe that pneumonia relapses, but is a case of delayed resolution.

Diagnosis.—A well-developed case of pneumonia is easily diagnosed, but if latent or centrally located no man can diagnose the disease until the physical signs show themselves. We have pneumonia without chill, cough, pain, fever or expectoration. Never say to a man over 60 that he has not pneumonia, as he may fool you. We are never threatened with pneumonia, as many physicians say, as it comes without warning. When we have pneumonia of one lung and pleuritic effusion of the other we wonder what is the matter. Latent pneumonia is often taken for meningitis and typhoid fever, but we must rely upon our physical findings.

Prognosis.—It is the most fatal of all acute diseases and a close second to tuberculosis. Infancy and old age the mortality is the greatest. The amount of lung involved has nothing to do with the symptoms; it has with the recovery. One-half of all complicated cases die. Pneumonia of the apex is more fatal than basilar. Migratory pneumonia is generally fatal. The so-called one-day and abortive pneumonia are unknown, as the physical findings are absent. Some bad points: Delirium after the fifth day; rise of temperature after the fourth day; prune juice expectoration; absence of expectoration; exhaustion, with a sunken, pallid face and cold sweats; diarrhea and edema.

Treatment.—Pneumonia is a self-limited general disease, runs its course and can not be aborted or cut short by any known means at our command. The pneumonic lung needs no treatment, it is a general disease, and has a local lesion. The toxemia is what we have to deal with and not the lung. There is no known specific for pneumonia, as we so often hear of. Uncomplicated cases of certain ages will recover. Complicated cases of certain ages will prove fatal. Pneumonia of itself never kills; it is its complications. Pneumonia is a painless disease. I try to have carried out the same general management of my pneumonia patients that I do in typhoid fever.

Veratrum, aconite, antimony, gelsemium, belladonna, iodid of potassium, have long been discarded. I admit that they lower the pulse and temperature for the time, but you do it at the expense of your patient later on. Coal-tar preparations, antipyretics and cough mixtures have no place here; am sorry to say for the toxemia we have no remedy. Nitroglycerin is too short in its action. Oxygen gas is of little or no good, as the alveola are plugged up with an exudate. If

the patient is suffering pain give $\frac{1}{4}$ gr. of morphin hypodermically and it rarely has to be repeated. For heart weakness I rely upon the use of camphor, spirits ammonia and strychnin. Alcohol I seldom use. Locally, cold sponging; there is nothing equal to it. It is grateful to the patient, reduces temperature and relieves pain. The cold pack I am opposed to; it will lessen the fever, but it causes depression and hastens heart failure. I find one of the best things to do in pneumonia is to employ a competent nurse and throw physics to the dogs.

Following are extracts from a paper on Diphtheria, Then and Now, by Dr. F. E. Mulugin, of Thomson:

When I received notice from our worthy secretary, Dr. H. S. Metcalf, that I was placed upon the program for a paper on the subject, "Diphtheria, Then and Now," I felt that a mistake had been made in some manner, for of all who are practicing in the country at the present time I think my own personal experience has been the most limited, for I can readily, after a practice extending over nearly thirty years, recount every case that I ever had and tell you how I treated them. Before doing so I want to give you a few brief extracts from different authorities. In Cullen's Practice, published in 1805, we find that at that time he speaks of cynanche maligna as a contagious disease, seldom sporadic and commonly epidemic. Attacks persons of all ages, but more commonly those in a young and infant state. Then giving history and prognosis. Treatment at that time, which was what we would to-day call cruel and inhuman. He passed along to 1826, when Bretonneau, of St. Louis, in his work, seemed to differentiate between the cynanche maligna, cynanche trachealis, and the different conditions and pointed out true pathology in his latest memoirs in 1855, substituting the name diphtheria for diphtheriti.

Diphtheria was a word almost unknown in English medical literature till 1859. Here the Doctor gave the symptoms, etc., as understood then. Then, giving briefly his own personal experiences, he passed to the new era which dawned upon the medical world when antitoxin came into general use, and stated that in his hands he had always obtained good results, only when cases were seen very late in the disease, and then they were mitigated greatly in the majority of the cases.

The meeting adjourned to meet in Chadwick in May.

H. S. METCALF, Secretary.

CENTRAL ILLINOIS DISTRICT MEDICAL SOCIETY.

The thirty-fourth annual meeting was held Tuesday, April 28, at Pana. A large number was in attendance and the following program was read: Scrotal Tumors, Dr. Will C. Wood, Deatur; Eye Defects Seen and Unseen, Dr. D. D. Barr, Taylorville; Surgical Treatment of Cerebrospinal Meningitis, Dr. G. N. Kreider, Springfield; Improved Technics for Correcting Malpositions of the Uterus, Dr. D. W. Deal, Springfield; Generalization vs. Specialization in Medicine, Dr. J. N. Nelms, Taylorville. Election of officers resulted as follows: President, Dr. W. C. Wood, Deatur; vice-president, Dr. D. W. Deal, Springfield; treasurer, Dr. J. N. Nelms, Taylorville; secretary, Dr. R. C. Danford, Pana. The entire board of censors was re-elected.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

A regular meeting was held Feb. 26, 1908, with the President, Dr. Henry B. Favill, in the Chair. Papers were read as follows: 1. Opsonins and Vaccines in Tuberculosis, by Dr. Gerald B. Webb, of Colorado Springs, Colo. 2. The Present Status of Treatment of Tuberculosis in Illinois, by Dr. J. W. Pettit, of Ottawa, Ill. 3. Preliminary Report of the Value of the Ophthalmic Reaction for Tuberculosis, by Dr. Frederick B. Tice. These three papers were discussed by Drs. Arnold C. Klebs, Mary C. Lincoln, Ludvig Hektoen, Adolph Gehrmann, William J. Butler, John C. Hollister, George F. Suker, Ethan A. Gray, Frank S. Johnson, Clarence L. Wheaton, and, in closing, by Drs. Pettit, Webb and Tice.

DISCUSSION ON THE PAPERS OF DRs. WEBB,* PETTIT,* AND TICE.

Dr. Arnold C. Klebs:—As we have had three distinct phases of one subject in these three papers this evening, I am really at a loss to know where to begin. But I should like to have a broad explanation of one phase of the subject as given by Dr. Pettit in his paper on sanatoria. I am sorry that I came in late and did not hear all of his paper, although I heard a good deal of it, and that part which interested me particularly was the statement made by him that the principles of treatment of tuberculosis were well settled. After listening to the other papers, and particularly to the paper by Dr. Webb, this question does not seem so well settled, at least not by the sanatorium methods.

I am very glad to see that Dr. Pettit, who naturally is a very ardent advocate of the sanatorium treatment, is cautious in advocating the erection of state sanatoria. I believe that caution should be urged more and more. I had occasion two years ago in St. Paul to call attention to some statistics which have been brought forward by the German sanatoria especially, which have done more work on the subject of tuberculosis than any other country; I showed that those statistics are not so gratifying as seemed at first. The curative results at dismissal of patients up to 90 per cent. became very much lower after several years, that is, the patients relapsed very frequently upon return to home surroundings. That feature has to be borne in mind particularly in the treatment of tuberculosis of the masses. Sanatoria may be of great value to those who can afford to go to them, and those states that can not afford to build and maintain large institutions for this purpose would often do much better if they concentrated their efforts in other directions, for instance, in the way it has been done in this city, namely, in the erection of dispensaries and the home care of patients, looking particularly toward prevention within the families of consumptives.

One thing in Dr. Webb's paper which has interested me most is to see how an extremely busy practitioner, in a comparatively small country town resort, has been capable of doing an enormous amount of opsonic work. Most of us have been scared of opsonic work on account of its great complexity; yet he has been able not only to work out all of his cases in that way, but he has been able to develop scientifically opsonic technic to a very great extent, as the report which he has given us of some of his findings easily shows. His findings, if corroborated, will throw an entirely new light on opsonic therapy. His discovery of the non-acid fast bacilli in their application to opsonic determinations will change the indices considerably, and if they change them in the way indicated it may explain many of the discrepancies that have been observed in this country. That such work is possible in the practice of a general practitioner seems to me an indication of encouragement for those of us who have hesitated to take it up.

Speaking of the non-acid fast bacilli, I would urge Dr. Webb, if he speaks of them in any of his publications, not to mention the name of Dr. Michaelides as the one who discovered them. I happened to have been in Professor Behring's laboratory last summer and had occasion to see this work done there. It was the first assistant of Behring, Dr. Much, who first did this work on non-acid fast bodies, his report of the findings having been published. My father, Edwin Klebs, in 1904 and early in 1907, had previously described them. This merely as an historical correction.

I hope we will hear more about this work of Dr. Webb in regard to the non-acid fast bacilli; it will undoubtedly be of great interest.

Another point which interested me particularly was the fact that altitudes and other climatic conditions, but more particularly high altitude, did not affect the opsonic index. The observed increase of agglutinating power in high altitudes would have made it probable that the opsonic index would be also increased. I was wondering whether the method of transportation of the blood might not have had some effect in modifying the test, and if different results would not have been obtained if the determinations had been made on Pike's Peak.

Another thing that interested me very much was to find that Dr. Webb is using gradually increasing doses of tuberculin in the treatment of pulmonary

* For text of papers see pp. 607 and 619.

tuberculosis. As I understand it, Wright considers this unnecessary, insisting on giving the same dose at long intervals.

Dr. Webb has made a brief reference to individual tuberculin. I think that is a subject which is coming to be more important of late. I wonder if he can tell us something of the work that has been done in Edinburgh with inoculations of cheesy matter for the purpose of immunization guided by opsonic determination.

I was particularly interested in the paper of Dr. Tice on the ophthalmic reaction. I have been trying to keep track of the literature, although I have found it somewhat difficult, more than 50 monographs on the subject having appeared since the 15th of last May, when von Pirquet first reported on the subject. About a week ago I received the monograph of Wolff-Eisner of more than 200 pages. The monograph is beautifully illustrated and shows Yankee enterprise in the Germans.

I regret that Dr. Tice did not adopt the method of classifying his cases as to clinical tuberculosis, clinically suspected cases of tuberculosis, and those apparently free from tuberculosis, as has been done by most of the other reporters. This would have allowed ready comparison. What I have noticed particularly in this paper again, as well as in some other papers, is that there is no uniformity in the technic of the test. First of all, the preparations used have been different. The preparation used by the speaker here is, I believe, absolutely different from the preparation used abroad. As I understand it, this tuberculin is precipitated by alcohol; the precipitate is dried and made into a tablet, with some admixture. It is utterly inconceivable how we can get a sterile solution with this unless we boil it again. Smithies and Walker, of Ann Arbor, found that the tuberculin in tablet form contained tubercle bacilli, which is rather astonishing. I should think by that it would seem that the manufacturers prepare their tuberculin by filtration through filter paper only, instead of filtering through a Chamberland filter. I do not know if Dr. Tice has noticed this also. Personally, I should not be inclined to use that preparation, nor should I want to recommend it for general use, because it will certainly not give uniform results, possibly lead to infections. The whole test is suffering from over-exploitation, anyway, and preparations of this kind are apt to discredit it. I know of another preparation which is being prepared in this country, put up in capillary tubes, which can be expelled by a rubber ball which is put in the capsule. This preparation is much more reliable because it is sterile and there is very little difficulty in applying it to the conjunctiva. In this connection I should like to say that it seems to me this test is being erroneously called ophthalmic reaction; neither is it correct to call it the Calmette reaction, and I think the term conjunctival reaction as suggested is preferable.

Very interesting to me was that the six cases of typhoid fever reported by Dr. Tice reacted negatively. Cohn, in Berlin, has found several cases reacting positively. I was interested to hear from Dr. Webb, who reported to me his own case of a very violent reaction without there being any suspicion of the presence of tuberculosis. But a month previously to making this test Dr. Webb immunized himself against typhoid fever, and it is quite possible that this may have a bearing on the point that the reaction was an extremely violent one. He used Calmette's preparation of 1 per cent., two drops, which is more than is recommended. I do not think Dr. Tice told us whether in his cases he used one instillation or two instillations, and whether he made the first instillation in one eye and then the second in the other eye. That is of great importance. If we instil one eye and subsequently instil the same eye, we often get reactions in healthy individuals. There seems to be a local hypersensibility produced by the first inoculation, and I believe in those cases every time the other eye ought to be used, if it is at all found necessary to use a second instillation. What we will have to determine in a large number of cases is a proper initial dose, and use one instillation only, avoiding entirely a second instillation, until this subject has been better cleared up. I wish Dr. Tice had given us his explanation of the reaction. He says that Wolff-Eisner does not give any explanation with regard to the production of the reaction. We have just been going over his explanation,

which covers about five pages, and it is quite interesting and I would recommend you to read it.

Addition After Correction.—In the discussion of specific points of the papers, I omitted reference to my opinion on the value of the integumental tests, which might be of interest. From my experience it seems to me that both the conjunctival and the cutaneous reactions have distinct corroborative value in diagnosis, but do not give any information about the extent of the lesion, but only of the specific reactive power of the organism. It is possible, therefore, that from it valuable prognostic conclusions are permissible. For both tests I would recommend simple solutions of old tuberculin and altogether discourage the use of the eye test in children, in whom better results are obtainable by the cutaneous test (25 per cent. tuberculin).

Dr. Mary C. Lincoln:—I should like to add to Dr. Tice's paper a brief report of my results with tuberculin used as a diagnostic means in the conjunctival and the Pirquet skin vaccination tests. It so happens that Dr. Tice has made his tests of cases in the two institutions in which I have been doing similar work, namely, at the Cook County Hospital and at Dunning. I have made tests upon 200 cases. Of these, about 90 were cases of bone and joint tuberculosis among children and adults, 90 cases of pulmonary tuberculosis, most of these being far advanced, and about 30 children clinically non-tubercular.

As to the results, my percentage does not agree entirely with that of Dr. Tice. I would divide my cases into those of bone and joint tuberculosis in which I have had a much higher percentage of positive results, ranging from 80 to 85 per cent., and cases of advanced pulmonary tuberculosis, in which I have found the percentage to be from 35 to 40, and even in the moribund cases to be, much to my surprise, 35 per cent. At the same time that I made the conjunctival tests I made the Pirquet skin vaccination test and, so far as possible, determined from two to five opsonic indices. The percentage of positive results of the skin vaccination test are essentially the same as that of the conjunctival test, but slightly lower, that is, 74 per cent. in the cases of bone and joint tuberculosis, and 35 per cent. in cases of advanced pulmonary tuberculosis. The reaction to tuberculin in the bone and joint tuberculosis cases is quite typical in both the conjunctival test and the Pirquet's skin vaccination. This can not be said in my experience of the pulmonary tuberculosis cases, especially the moribund ones. There the reaction is decidedly positive, but not nearly as typical as in surgical tuberculosis.

As to the question of using a single instillation or repeated instillations, I think it very important. I believe that point will explain some of our discrepancies in results. I agree with Dr. Klebs, that, to have the test valuable, we should have a solution of tuberculin of some strength which will give a result from a single instillation. That brings up the point of the material to use. I have also used the tablets manufactured by Parke, Davis & Co., of purified tuberculin. It has been interesting to compare the results of the Germans and French. Although the Germans have used the old tuberculin of different strengths, 1 and 2 per cent., their results seem to agree fairly well with those who have used the purified tuberculin. And the Germans have used not only the single instillation, but more than one instillation, and have recorded their results, not always stating whether they used a single or a second instillation. To me their percentage of positive results would be lower if they gave all their results on the basis of a single instillation.

Levy has been conducting an interesting series of experiments. He has taken both normal individuals and tubercular and has instilled one drop of a 2 per cent. solution of tuberculin in one eye, waited a period of a week or more, and then instilled into the other eye one drop of a 4 per cent. solution, and at the same time one drop of a 2 per cent. solution in the eye previously tested. He found the reaction positive in a large per cent. of cases in the eye in which there had been two instillations and negative in the eye in which the stronger solution was used, showing that the susceptibility to the reaction had been increased. The same strength solutions were used in both eyes, but a period of one week was

allowed to elapse between the two instillations in one eye. The prognosis, conclusions which the German authors are drawing, is to me unwarranted. In general, we can say, the far advanced cases do not give as marked a reaction as do those less profoundly infected.

Dr. Ludvig Hektoen:—There are many points, more particularly of a technical nature, to which reference might be made in view of the interest in opsonic work. I wish to make special reference to only one of these points, and that is to the agglutination of the corpuscles of one individual by the serum of some other individual. When that happens in opsonic studies it is very annoying, and we can have no real confidence in the results then obtained when the red corpuscles, as well as leucocytes are all more or less drawn together in dense clumps. When the sera of a number of persons are tested interchangeably upon the corpuscles of those persons, the persons become divisible roughly into two major groups: one whose corpuscles are not agglutinated, whereas their sera agglutinate the corpuscles of the other group; in Group 2 we have the reverse of this: The corpuscles are agglutinated by the sera of Group 1, while sera do not agglutinate the corpuscles of Group 1. A little less than one-half of ordinary normal persons, as they come and go, will be found to have non-agglutinable corpuscles, and in regular opsonic work such persons should be selected as donors of the blood-cream.

It is interesting and important at this time that we have men like Dr. Webb who are using tuberculin in pulmonary tuberculosis in connection with opsonic observations. Results will come from that which will prove of value for comparison, particularly as we have, on the other hand, men like Trudeau and others who for years have been using and still are using tuberculin in pulmonary tuberculosis and without regular opsonic observations. Dr. Webb, as I understood him, does not regard opsonic determinations as essential in tuberculin treatment, and in this I quite agree with him. I hope, therefore, that the fact that Dr. Webb is making a scientific study of the opsonic index in the course of treatment of pulmonary tuberculosis with tuberculin in no wise will deter physicians from making use of tuberculin in suitable cases and in such doses as cause no clinical reactions. Pulmonary tuberculosis should be treated more extensively than heretofore with tuberculin under proper conditions and following certain rules which we now may regard as well established by the pioneers in this work, especially Trudeau. Tuberculin undoubtedly has beneficial effect upon tuberculosis; furthermore, it can be given in cases that do not have special climatic and sanatorium advantages.

Dr. Adolph Gehrmann:—I would like to say a word on one phase of this subject, namely, that relating to the staining of the tubercle bacillus. It has long been known, as has been mentioned, that we find bacilli that are non-acid fast. This is true of those bacilli which have been macerated for a considerable length of time in glands where caseous material is present. This is especially true in cattle. We find in the old glands in the cow difficulty in finding tubercle bacilli by the ordinary methods; I wish to call attention to the possibility, in examination of the sputum for tubercle bacilli, of finding non-acid fast bacilli that are possibly streptothrix organisms, or diphtheria bacilli, which may be present in the sputum and which would give positive Gram staining. It might be well in these cases to use cultural methods where such organisms are found, and I believe it would be interesting for the doctor, if he knows of such a case, to use such methods and to determine further by animal experimentation whether he is dealing with the tubercle bacillus or some streptothrix organism. As a rule, we do not find non-staining tubercle bacilli in areas like the lungs where there is an active process. In the tonsil, however, where the crypts are filled, one might find such organisms present which have undergone degenerative changes, as well, as other similar organisms.

Dr. William J. Butler:—With reference to the question of staining tubercle bacilli, it is of considerable interest in connection with opsonic work. Staining tubercle bacilli by other methods than by the carbol-fuchsin invariably gives

some difference in the results as to index. Staining with carbol-thionin will give usually a somewhat different result to that obtained by carbol-fuchsin in similar preparations. While it is an exceedingly interesting observation, the difference, noticed by the essayist, as between carbol-fuchsin and Gram's stain, and the range of error possible in counting the bacilli in general, would rather cause us to hesitate in attributing to the former point any great value at this time in explaining the anomalies in the tubercular index curve.

As to the response to vaccine injections, I think if the index is of value at any time in the treatment of tuberculin it is estimating the dosage by virtue of the index. It is true that occasionally a case will improve decidedly under treatment that shows little variation in the index. But that is not the rule, however; it is rather the exception. The various explanations offered for it are not altogether satisfactory.

With reference to the gonococcus, I have had considerable to do of late with it, and similar differences in the index may be observed with the gonococcus in staining by carbol-thionin and in staining by methylene blue. The indices will not be absolutely identical on staining similar preparations by different stains; and likewise I have observed that cases giving the most beautiful indices, that is, as to their rise and fall following injections of the gonococcus in apparently pure gonococcus infections, do not always show the best clinical results. But they are the exception.

As to the index in pulmonary tuberculosis, while I have not had much to do in treating pulmonary tuberculosis, and I note that Wright is not an enthusiast on the subject, I can readily see how in pulmonary tuberculosis, if there are autoinoculations occurring (and a few unvarying indices taken before starting treatment by no means excludes their subsequent occurrence), injections of tuberculin might cause an erratic index which would not correspond to one in which the patient was not suffering from autoinoculations.

As to the Calmette reaction, I have been investigating the conjunctival and skin reactions for several months, and, while not prepared to offer statistics, I believe my results would correspond more closely to those presented by Dr. Lincoln than by the essayist, which would likewise correspond, in a great measure, to those that have been presented in the literature.

The essayist seems to have lost sight of the fact that this is a test of the changed reaction capacity of the body toward tubercle bacilli and their products. It is only after a body has suffered invasion from tubercle bacilli that it will give evidence of this changed reaction. It is positive evidence of a local hypersensitiveness of tissue cells that have already been engaged in antibody production against tubercle bacilli products. If this immunizing reaction has been exhausted, it is evident that the reaction would be negative, and this might prove of some prognostic value, instead of lessening its diagnostic worth when positive. Therefore, the failure of this reaction in manifest tuberculosis should not be so hurriedly seized upon as an argument against its value in diagnosis, but should be regarded as an index to their immunizing response to the infection, hence of prognostic value in its failure.

It is likewise inconsistent to introduce as an argument against it the fact that the cases cited with other diseases gave the reaction, because the present diseases in no way precluded their having or having had a tubercular infection.

Dr. George F. Suiker:—With reference to this subject, I think a few words of caution need be said so far as the Calmette reaction is concerned. No doubt it is valuable, yet it has its failures and fallacies, and they are quite numerous. The promiscuous use of this reaction has already been attended with disastrous results, so far as eyes are concerned.

So far as given observations and studies therefrom go, the average practitioner should be very particular in the application of this reaction, in that he should carefully examine the condition of the eye prior to the instillation. If a child had, for instance, a quiescent conjunctival or keratitis phlyctenulosis, then the Calmette injection has a tendency to aggravate these conditions and

that child's eye may become worse in the course of time, consequently losing a good share of its visual activity. I would advise every one to take at stated intervals the vision of patients before and after using it, in order to avoid possible future malpractice unpleasantries.

Should the eye be affected with a moderate trachoma or follicular conjunctivitis, then Calmette's injection is apt to be misleading, for the ensuing reaction is not a type one, but is a simple catarrhal reaction. Indeed, in order to obtain the proper reaction, the conjunctiva, cornea and sclera must be far from any inflammatory conditions. Then, too, the temperature of the eye to which the reaction is applied is changed. Bear in mind at the same time, though, that the temperature of the normal eye is less than of the general body as a whole, and consequently will not have as high variations; nevertheless, it does vary from 1 to 2 degrees more when the reaction is at its zenith. This can be readily determined by cocaineizing the eye and applying a thermometer to the conjunctival sac or the retrolarsal folds with closed lids.

The reaction itself is not at times positive, particularly if the patient has had a previous scleritis, superficial or deep, or an interstitial keratitis. We know perfectly well that syphilitics, if given an injection of tuberculin, will often give a temperature reaction not unlike that which we get in suspected tuberculosis. The same holds true with reference to the Calmette reaction in some of these same syphilitics.

As a matter of caution, I would suggest not to use this reaction too promiscuously without first ascertaining the exact condition of the conjunctiva, as well as cornea and sclera, as disastrous results, so far as I have been able to ascertain in studying statistics, are more numerous than they should be. If, from the figures given in the literature of between 500 and 600 cases, we get a certain percentage in which there is loss or serious involvement of the eyes from this reaction, it is about time we are more careful in using it. I do not know as I would want the Calmette reaction applied to the eye of a young child which has latent phlyctenular conjunctivitis or keratitis, because of the fact that, as ophthalmologists now look upon these two diseases of the eye as being closely related to tuberculosis, if not a veritable modified form, and because a large share of the inmates of the blind asylum come from cases of phlyctenular keratitis. A good many of these children—I do not say all, but quite a few—may not be tuberculous; and, having a phlyctenular conjunctivitis or keratitis, therefore, if we get a reaction, it is not at all diagnostic because the mere instillation of any such toxic agents can start up a similar reaction.

Dr. Ethan A. Gray:—I have been making use of the conjunctival reaction as a means of checking up certain work I have been doing in one of the orphan asylums in this city, the children of which are presumably as healthy as asylum children go.

	Num. Examined.	Reaction.		
		Pos.	Neg.	Doubtful.
Under 2 years, 14 examined.				
Apparently normal	10	0	10	0
Doubtful	3	0	3	0
Presenting evidence of infection	1	0	1	0
Two to 6 years, 25 examined.				
Apparently normal	8	0	8	0
Doubtful	10	0	10	0
Presenting evidence of infection	7	2	5	0
Six to 14 years, 25 examined.				
Apparently normal	5	0	5	0
Doubtful	11	2	8	1
Positively tuberculous	9	3	6	0
Total children examined, 64.				

These children were taken in routine order, not selected in any way, with the idea of determining the extent of latent tuberculosis in this particular institution. The ophthalmo was used as a check, but, in view of the conflicting results in different cases where the same fluid was used, freshly prepared, reacting in those

cases once or twice in which we did not expect it and had made no positive diagnosis, and failing to react in those where we were positive we had a tubercular diathesis, we concluded it would be better to use physical diagnosis to check up the ophthalmic. In this connection I wish to emphasize the point made by Dr. Tice, that more attention should be given to physical diagnosis and less to the character of the ophthalmic reaction. Until we know more about it I shall not instil any more tuberculin into the eyes of children in this institution. Whether we can obviate any of the dangers resulting from the instillation remains to be seen. I do not regard a keratitis nor a catarrhal conjunctivitis, nor an excessive inflammation of the eye, with possibly some interstitial conjunctivitis, lasting from one to two months, as harmless. Dr. Suker has warned us against the use of this particular procedure, and it is a warning that we should heed.

The question of the action of the glycerin content and other products of tuberculin on the eye has been raised. If they are dangerous in the way of producing inflammatory conditions in the eye, I think we should have more reaction in these cases. One per cent. glycerin is of no especial importance. In the cases mentioned we used old tuberculin, 1 per cent., freshly prepared. As a routine measure, I should condemn the use of the ophthalmic reaction. It may be used as other measures are used, in cases of doubt, but, inasmuch as we have in every form of tuberculin diagnosis some doubt expressed, and there is an element of danger attending the ophthalmic reaction, I think it is well to be cautious.

Dr. Frank S. Johnson:—I want to ask Dr. Webb a question. If he does not use the index, how does he guide his therapeutic use of tuberculin? Is he guided in any way by the subjective sensations of the patient? The reason I ask these questions is this: Last year I had a case of tuberculous peritonitis in which the patient could tell quite as accurately as the laboratory man when a dose of tuberculin was required. In another case of tuberculous enteritis in which the patient's trouble resembled dysentery, and who also recovered under the use of tuberculin, the same feature was noted, but was possibly less marked. It seems to me it is quite safe to use that subjective indication as a guide in most cases and especially where it is not feasible to follow the opsonic index closely.

Dr. Clarence L. Wheaton:—I think we have all listened to the papers presented this evening with great interest, and that in bacterial inoculations we undoubtedly possess therapeutic agents of more potency and specific value than anything that has been employed in the treatment of disease. Smithies and Walker, of the University of Michigan, recently reported on the analyses of work by French observers relating to the ophthalmic reaction. One hundred and eighty-five cases clinically tuberculous gave positive reactions 176 times and 9 negative reactions. Of 28 cases, doubtfully tuberculous, 21 gave positive reactions and 7 negative. Of 188 persons suffering from disease not tuberculous and including a fair proportion of normal individuals, 186 gave negative reactions and only 2 were positive.

Levy, of Berlin, reports a positive reaction in 85 per cent. of 41 tuberculous patients and in 60 per cent. of 54 with dubious tuberculosis, while the reaction was positive only in 25 per cent. of 235 non-tuberculous patients.

In the very intense form of reaction following inoculation of the conjunctiva the parts become rapidly involved, the bulbar conjunctiva becomes chemotic. There is marked swelling of the parts and considerable edema of the eyelids, lachrymation is very abundant and there is much purulent secretion, true pains radiate to the temple and forehead. The acute stage may persist as long as eight days and the conjunctiva may not return to normal for a month. It seems to me that such a reaction must be regarded as formidable and not incapable of doing permanent injury to the eye.

The results of these inoculations with a minim of glycerin free tuberculin as mentioned in the original contribution of Calmette are not well enough defined in the light of our present knowledge to warrant the employment by the general practitioner of this method of early diagnosing tuberculosis. If future experimentation in this field of science reveals a single case of impairment of ocular

function, the method should be discarded as absolutely worthless, for I believe we have at our command other methods for the early diagnosis of tuberculosis quite as efficient and less dangerous.

Dr. J. W. Pettit, Ottawa, Ill.:—As my paper is more of a report than a scientific contribution, in closing I will simply take occasion to correct a misquotation on the part of Dr. Klebs. I do not wish to be understood as being opposed to or as in any wise weakening in the matter of sanatorium treatment. The question I wish to raise is this. Shall we accept the state or the municipality as the unit of representation in providing public sanatoria? I am inclined to favor the municipality for the reason that the state seems to me too large a unit of representation. This, however, is not the time or place to discuss this question.

As to the comparison of results of sanatorium treatment, I have heard Dr. Klebs on several occasions use statistics of German sanatoria to prove that the treatment is at least partially a failure. He has made the statement that out of 100,000 incipient cases treated in German sanatoria they only secured 25 per cent. of permanent results. The doctor will correct me if I misquote him. This is so at variance with the reports we usually receive, not only from European, but American sanatoria, that it looks as if there was something radically wrong. In the same connection Dr. Klebs stated that in order to increase the usefulness of the public sanatoria in Germany the time was fixed at about five weeks. This is so short a time in the treatment of tuberculosis that it amounts to practically nothing and I am really quite surprised that they can show even 25 per cent. of results, and for my part I would hardly be willing to accredit the sanatorium with even this small per cent.

In discussing the value of the sanatorium in the treatment of tuberculosis we must bear in mind the great disadvantages under which we are now laboring. The two essentials for successful treatment are either ignored or imperfectly applied. These are early diagnosis and the time element. We secure very few incipient cases, and it is the exceptional patient who remains under treatment the required length of time.

Then, too, we are constantly discussing the treatment of tuberculosis from the physical side. We discuss the patient's disease but fail to take into account the patient himself. In the treatment of tuberculosis the patient is not a passive agent, and the success in any given case very largely depends upon the character, courage and intelligence of the patient himself. The sanatorium treatment must be looked upon as a matter of education, and success turns upon the question of whether or not the patient will accept the opportunities offered. In fact, so much depends upon the patient that I believe it is unfair to quote statistics from charitable institutions to prove the value of the treatment, for the reason that these patients usually come from the lower walks of life. I firmly believe that the extremes of society will not be materially benefited by sanatorium methods. The poor, because of their poverty and ignorance. We may relieve their poverty for the time being, but can not their ignorance to such an extent that they will not go back to their former environment. These patients accept the treatment in such a half-hearted, half-intelligent sort of a way that the permanent results are not very satisfactory. Our care of the extremely poor will protect society by the prevention of infection, rather than in curing the disease. Neither will the other extreme of society be much benefited. For the most part the victims will be the children of rich parents who have not been taught to practice self-denial or self-control. They will be coddled, pampered, spend their time flitting from one health resort to another, and their very opportunities for getting well will be used in such a way as to hasten them to their graves. It is the great middle class, the really useful people, who are benefited. As a rule they are willing to submit to the conditions necessary to secure results. This is the class who are benefited, and whose lives are of most value to the community. The sanatorium treatment is all right if it is carried out by the right kind of people at the right time, and in the right way.

Dr. Webb (closing the discussion):—Replying to Dr. Klebs, the doses of tuberculin were not increased beyond 1/800 mg. I had not heard of the experiments of the Edinburgh writer with cheesy matter to which he refers. The experiments of Much were conclusive as to non-acid fast tubercle bacilli changing into acid fast. He inoculated the non-acid fast into peritoneal cavity of guinea-pigs and was able to demonstrate the change.

Replying to Dr. Butler I do not think one can rely upon carbol thionin as a stain for tubercle bacilli. I do not think the Gram a perfect stain for them. I merely wish to show that in highly pathologic sera a lytic influence by changing the tubercle bacillus coat rendered the carbol fuchsin method of staining unreliable. It is probable that in the gonococcus case he quotes there was a mixed infection. In just such cases I have learned it is frequently necessary to use the mixed vaccine and that gonococcus vaccines should not be condemned until used with the vaccines of associated organisms. In our tubercle work we have always studied the question of auto-inoculations before inoculating.

Dr. Hollister's remarks are very much to the point. However, I think he missed the fact I tried to point out that the normals and subnormals are apt to be accurate; therefore, the work on these can stand and only the results in quite pathologic serum is inaccurate.

Replying to Dr. Johnson, it is undoubtedly true that patients themselves can tell when they require another dose of tuberculin. I recall the case of a leper in Wright's clinic who was improving under tuberculin inoculations who very frequently could name his opsonic index before it was taken. We inoculate every seven to ten days, that being the period over which in many cases the high tide of immunity lasts. I am inclined to think that the desire patients have for the next dose is genuine and that it is not suggestion that influences it.

Dr. Tice (closing the discussion):—In reply to Dr. Klebs, in making repeated instillations, the instillation is always made in the opposite eye, never being repeated in the same eye unless more than two are made.

In reference to Wolff-Heisen giving no explanation of the cause of reaction, I referred in my paper to irritation. Dr. Gray has referred to it in his cases and has emphasized the importance of physical examination in addition to the test. The test is not to be depended on solely in making a diagnosis.

Regular Meeting, March 4, 1908.

A regular meeting was held March 4, 1908, with Dr. Charles S. Bacon in the chair. Dr. Julius Grinker read a paper on "The General Aspects of Psychotherapy."* Dr. Gustav Kolischer read a paper entitled "Prolonged Laughing Gas Anesthesia in Surgical Operations." The paper of Dr. Kolischer was discussed by Drs. F. K. Ream, Victor J. Baccus, L. E. Greensfelder, Daniel N. Eisendrath, and the discussion closed by Dr. Kolischer. Dr. Fenton B. Turck read a paper entitled "Chronic Round Ulcer of the Stomach and Duodenum, with Experiments on Dogs; Demonstration with Lantern Slides."* This paper was discussed by Drs. Victor J. Baccus, Albert Goldspohn and Charles S. Bacon.

Dr. F. K. Ream:—I desire to congratulate the essayist for his boldness in advocating a departure from the older lines of anesthesia, backing up his statements by several hundred practical cases. It requires courage to take issue with old lines of practice, and especially to advocate the use of nitrous oxid and oxygen for capital operations hitherto regarded useful only in minor surgery.

In my mind, it is high time the profession take notice of the advancement and wide range of usefulness of nitrous oxid and oxygen. From the fact that leading surgeons all over the United States and abroad are using this form of anesthesia almost exclusively leads me to prophesy that it will be the leading anesthetic of the future. Postoperative pneumonias and renal complications following chloroform and ether anesthesia as expressed by the essayist, to say nothing of the effort on the part of the profession to obscure the real mortality, are sufficient reasons to encourage its speedy adoption.

* For text of papers see pp. 625 and 631.

The profession has taken 100 years to arrive at the present status of this form of anesthesia, and from the results now obtained I believe the near future will reveal astonishing results. One of the largest hospitals in this city is preparing to instal a private plant for generating the gas that the cost may be lessened. This is in response to a demand from the attending surgeons for an unlimited supply. Only this week one of the internes anesthetized a patient for two and one-half hours with nitrous oxid alone. Dr. Charles K. Teter, of Cleveland, reports nearly 400 capital operations ranging from 30 minutes to three hours in duration without the slightest indication of alarm, and as I look over his tabulated cases and find chloroform and ether anesthesia was contraindicated I feel doubly enthusiastic.

Referring to my personal efforts, I am able to report approximately 30,000 administrations principally for the extraction of teeth without a single accident or fatality. About 100 of this number were major operations. I have administered this anesthetic to patients from 1 year of age to 92 years of age and at all stages of pregnancy. My patient at the extreme age was a feeble old lady with a bad heart, for whom I maintained profound anesthesia for one hour and ten minutes. On account of the anesthetic the surgeons had refused for years to remove a large benign tumor involving the parotid gland and large blood vessels of the neck. At no time was the patient in danger of collapse, and in twenty minutes the patient walked to her room, assisted by the nurse. Not a particle of nausea was present. I started the anesthetic with 3 per cent. oxygen and 97 per cent. nitrous oxid and gradually increased the oxygen until at the close she inhaled from 10 to 20 per cent. oxygen. There was marked absence of cyanosis.

The increasing percentage of oxygen I have been able to give my patients leads me to take issue with Dr. Kolischer in his recommendation for a uniform percentage, viz.: 1 per cent. I desire to administer all the oxygen patients will take in so far as it does not prevent anesthesia. Certainly 1 per cent. of oxygen is superior to nitrous oxid alone, but I believe if the doctor will employ an apparatus whereby he can vary the amount of oxygen he will be better pleased.

I have used this anesthetic in obstetrical work with excellent results. The patient is permitted to inhale the gas upon the approach of the pain. About four inhalations will produce analgesia which will not interfere with uterine contraction or the normal course of labor. The gas will be entirely eliminated before the next pain, when the procedure may be repeated. If it is desired to retard labor, a small quantity of chloroform may be combined with the gases.

I thank Dr. Kolischer for calling my attention to statistics. Four million administrations in four years by men of all grades of ability—many were doubtless mere tyros and students.

I am in receipt of a letter from one office in Philadelphia, stating the administrations in that office had reached 270,369 without a single accident or fatality. We have one specialist in Chicago reporting over 100,000 administrations without a fatality or accident.

The principal point of discussion seems to center in the use of oxygen. I have made a number of inquiries, and it is the practice of anesthetists to substitute atmospheric air for oxygen, due, I believe, to imperfect apparatus. The great objection to this substitution is the fact atmospheric air contains a large percentage of nitrogen which is not an oxygenating agent and does not contribute to anesthesia.

Hewitt tells us in his experiments that complete unconsciousness can not be produced with mixtures containing more than 30 per cent. air. The advantage of oxygen over atmospheric air can readily be understood when we know one part oxygen is equivalent to eight parts air and the patient will recover from cyanosis and anoxemic convulsions in that ratio. Furthermore, the atmospheric air of a crowded surgery room is a poor oxygenating agent. We are familiar with Priestley's experiments of placing animals in separate reservoirs containing air and oxygen. Under the latter they lived twice as long as under air. Birds died in oxygen without convulsions; also the heart retains irritability for hours when death takes place in oxygen.

I can not emphasize too strongly the use of morphin preceding gas anesthesia for neurotics, alcoholics and all patients with a well defined antagonism to anesthesia.

In conclusion, surgeons using scopolamin-morphin anesthesia will find the gases an ideal adjunct as a substitute for chloroform.

Dr. Victor J. Baeus:—While abroad last year I had the pleasure of visiting most of the large clinics, and I did not see anywhere in any of the clinics held in Berlin, Vienna, Paris and in London, this nitrous oxid anesthesia used. It is true, they are using the Roth-Drayer apparatus in every clinic I visited, which is a very useful instrument, especially for young internes, and particularly for those who have had no experience in giving anesthetics. One can see the number of minims of chloroform or ether given by this instrument, by means of oxygen pressure tank. Thus the patient receives ether, chloroform and oxygen in the proportion desired.

The next most frequent method of anesthesia which foreign surgeons are using, especially in Berlin and Vienna, is spinal anesthesia. It is also used very frequently by Tuffier of Paris, and while speaking with Sonnenberg on the danger of this form of anesthesia, I inquired as to the number of cases in which he had used it, and he said in about 900 cases, with two fatalities, and in both instances death was due to infection. Tuffier of Paris has used it about 4,000 times without a death. While going around with Professor Lane of Guy's Hospital, London, one of the attending surgeons was using spinal anesthesia in a case of amputation, and we were informed that while he was performing the operation the patient died from respiratory paralysis.

I have been using nitrous oxid gas anesthesia at the Policlinic for six or eight months, at the suggestion of Dr. Nevius, who predicted long ago that nitrous oxid gas was to be the anesthetic of the future. There is now at the Policlinic an interne by the name of Dr. James, who has given a great many gas anesthetics, and he is so familiar with this work that he is possibly one of the best anesthetists in the city. We do not use any oxygen at all, but we use pure nitrous oxid anesthesia, and after an interne has given possibly six or seven anesthetics, he learns the amount of nitrous oxid gas and the amount of air to give the patient, and in this connection I want to mention some of the operations that have been performed under nitrous oxid gas anesthesia. The only thing we have now to contend with is the cost of the gas, because it is more expensive than either ether or chloroform. These are a few of the operations that have been performed with this anesthetic: Case 1, left inguinal herniotomy, an appendectomy and a hemorrhoidectomy. Case 2, nephrorrhaphy with appendectomy through the same wound, cholecystotomy and curettement. Case 3, gastroenterostomy, etc. During the last six months I have performed over 50 major operations under nitrous oxid gas anesthesia.

The technic which Dr. James uses is to put the patient to sleep slowly, and not choke him as we used to do at first. He simply allows a certain amount of the nitrous oxid gas and air and it requires about five minutes to put the patient to sleep. The preparation of the field of operation should be done before the patient is taken to the operation table. We have traced some of these cases with a view to ascertaining the postoperative urinary findings. We have not been able to find any albumin, blood or casts in the urine, following any of these nitrous oxid anesthetics. The patients recover quickly. Occasionally there will be a slight nausea, but the majority of patients wake up before they are taken to their rooms, and they feel much better than they do when they are given general anesthetics.

Dr. Louis A. Greensfelder:—At the Michael Reese Hospital for the past two years or more nitrous oxid gas anesthesia has been employed by a large number of the attending surgeons. At first, the gas was employed without the admixture of oxygen. In spite of giving the anesthetic slowly, if you would obtain that abdominal relaxation which is necessary in a great many of the operations, it is impossible to do so without the patient becoming cyanotic, but with the admixture of oxygen, at about 1 per cent., these patients will go on for one hour

to two hours without exhibiting the least bit of cyanosis, and with complete relaxation of the abdominal muscles. I personally have used it in those cases of hernias where, for instance, the patient was suffering with bronchitis, where the administration of ether or chloroform would have been contraindicated. I have operated on cases where the anesthesia has gone on two hours without any untoward results. I believe this anesthetic is one that will be used more and more, as soon as we have some such apparatus as has been exhibited to-night. We are contemplating making our own oxygen at the Michael Reese hospital, because of the great demand on the part of the patients for gas anesthesia and of the great expense to the patient who wishes to take this anesthetic.

I agree with every assertion that Dr. Kolischer has made, especially in regard to genitourinary and kidney work. In septic cases, in cases of general peritonitis, and appendicular cases, ether anesthesia is unquestionably dangerous, but gas anesthesia is the anesthetic par excellence.

Dr. Daniel N. Eisendrath: I can only endorse everything that Dr. Greensfelder and Dr. Kolischer have said. Our experience at the Michael Reese Hospital has been extremely satisfactory, and I need not call the attention of the members of this society to the necessity of discriminating considerably more than we have done in the past with regard to the choice of anesthetics. We are too apt to take patients as they come in, put them on the operating table and give them the regular anesthetic, trusting entirely to luck. Even though a patient may have a mild bronchitis, we may not have any particular choice in the use of the anesthetic. We do not want to give chloroform perhaps, although we may be obliged to do it.

The apparatus Dr. Baccus spoke of is not being used to the extent that he says it is. I attended many of the French and German clinics while abroad last year, and did not see the Roth-Droyer apparatus used. This apparatus is very complicated and it is one which requires considerable skill to use in giving anesthesia.

Going back to the point where I started, we must have some anesthetic which we can give to people who may have a latent nephritis of which we know nothing until after the anesthetic has been given, as occurred in a case a few weeks ago. A patient was admitted to the hospital who was previously well, apparently. His urine showed only a few hyalin casts and one or two granular casts, and we thought it was safe to give ether. We did not want to give any other anesthetic, because we do not get the relaxation of the abdominal wall. What else shall we give? The only anesthetic we have been using is ether. Shall we give him ether? Yes, because it is the anesthetic with which we are most familiar. We give the patient ether; he has acute suppression of urine and succumbs to it. We must use an anesthetic in those cases in which we suspect nephritis on which we can rely. These are the cases in which the administration of nitrous oxid and oxygen mixture is indicated, and suggested by Dr. Kolischer, and when it is given in definite proportion, it is the anesthetic par excellence. I think Dr. Kolischer has rendered a great service in calling the attention of the medical profession to this anesthetic. I believe by using this anesthetic we will have less proportion of postoperative pneumonia.

There is one point brought out by Dr. Greensfelder which I desire to emphasize, and it is one that every practitioner has been confronted with, who has given pure nitrous oxid in cases of laparotomy, for instance, and that is, if you give a patient nitrous oxid without the admixture of oxygen, you are almost certain to be interfered with in your work by the rigidity of the abdominal wall, and that is one great feature where the addition of the oxygen is a great improvement. It has been shown that we can go on with this anesthetic for an hour or two and operate, as in one case I recall now in which we gave it for amputation of the breast; in another one for a difficult laparotomy, the anesthetic was continued for an hour without the least interference whatsoever in regard to muscular rigidity.

Dr. Kolischer (closing the discussion):—I have not much more to say. I would like to emphasize again the necessity of using oxygen with the nitrous oxid

gas. I am sure, if Dr. Baccus keeps on using pure gas in his surgical operations he will have eases of asphyxia. It is not the favorable cases we have trouble with, and inasmuch as we know that death will occur, if we give pure nitrous oxid gas, there is no reason why we should take this chance. As to post-operative complications, I wish to call attention to one point. If I operate on a patient and examine the urine of that patient and find a little albumin, that does not amount to much. The slight amount of albumin may disappear and the patient may stay cured of the albuminuria. The most important complication is the one of acetoneuria, especially in diabetes.

As to the rigidity of the abdominal wall in most laparotomies, I will say that I overcome this rigidity, not by the anesthetic, but by the use of a self-retaining retractor devised by Fritsch and Stoeckel, which is nothing else but a speculum inserted in the lower angle of the incision and a weight attached to it by means of a chain; this permanent pull tires out the muscles pretty soon.

There is one exception I would like to make to a statement made by Dr. Eisen-drath. I do not think it is right to say that we should use this anesthetic, which is practically without danger, only in cases where we have certain indications, when ether and chloroform are practically excluded. I think we should not use ether and chloroform save in exceptional cases, and reverse the order of Dr. Eisen-drath. Nitrous oxid and oxygen anesthesia is the thing to use.

As to the use of this apparatus, if it keeps up to the promise held out, it is the thing to use, because, as Dr. Ream has pointed out, we can gauge and change the admixture of oxygen all the time. We can start with gas, turn off the gas, and then give oxygen, so that the patient may recover from the anesthetic without having any knowledge that such a change was made.

DISCUSSION ON THE PAPER OF DR. TURCK.

Dr. Victor J. Baccus:—I wish to compliment Dr. Turck on his wonderful industry and on presenting such beautiful researches. His experiment has proven the views which have been advanced by a very eminent surgeon, namely, Mayo Robson, who, in speaking on the etiology of ulcer of the stomach, states that in a large proportion of his cases he found that the buccal cavity was loaded with bacteria, secondary to infection of the gums or teeth. He did not say anything absolutely about this, but speaks of the possible bacterial invasion of the stomach mucosa, and giving rise to these ulcers of the stomach. Again, the experiments and the remarks of Dr. Turck on the cecum, descending colon, transverse colon and sigmoid may justify the views recently advanced by Professor Lane, which have appeared in the last issue of *Surgery, Gynecology and Obstetrics*.

Dr. Albert Goldspohn was asked to take part in the discussion. He said: I am not able to contribute anything, but I can not refrain from expressing my profound gratitude at the labor which Dr. Turck has devoted to this subject. There can be nothing done for the recognition, the diagnosis and treatment of disease better than a clear and correct understanding of its etiology. That there is a hazy understanding on this subject in the minds of most practical men hardly needs to be stated. I feel thankful for the privilege of seeing what the Doctor has accomplished.

Dr. Charles S. Bacon:—It is about two years since Dr. Turck presented his first paper at the joint meeting of the Chicago Medical and Chicago Pathological societies on "Round Ulcers of the Stomach." That paper received the endorsement and approbation of our well-known pathologist, Dr. Hektoen, and others, and this continuation of the work in the development of chronic ulcer is so adequately presented that I think the society is to be congratulated on it.

Regular Meeting, March 11, 1908.

A regular meeting was held March 11, 1908, with the President, Dr. Henry B. Favill, in the Chair. Dr. Channing W. Barrett read a paper entitled "The Crime of Gynecology." This paper was discussed by Dr. B. L. Reitman, Dr. Albert

Goldspohn, and the discussion closed by Dr. Barrett. Dr. Daniel N. Eisendrath reported the following cases and exhibited patients: (1) Gunshot wound of the liver; (2) conservative surgery of the fingers; (3) urethral calculus; (4) nasal splint; (5) sarcoma of gluteal region; (6) macroglossia. Dr. William E. Schroeder followed with a demonstration of color photography, illustrated by stereopticon and transparencies showing the teaching possibilities. Dr. Schroeder was followed by Mr. W. F. Willis, who spoke on the technic, including the chemistry and physics of the subject.

DISCUSSION ON THE PAPER OF DR. BARRETT.

Dr. Ben L. Reitman:—Personally, I wish to thank Dr. Barrett for the able and valuable paper he has read. Those of us who are familiar with the Cook County and other hospitals are convinced of the truth of his paper. The evils which exist in these institutions have an economic basis. The surgeons want the cases of gynecologists, because they need them in their business. A doctor who is on the surgical staff of Cook County Hospital is, in all probability, connected with a medical college, and he must of necessity give a good clinic. He must have the gynecological cases which Cook County affords in order to give good clinics. It must be remembered, however, that the surgeons at the Cook County Hospital are not paid for their time, and they get their returns in giving clinics and they need all of the clinical material they can obtain from the hospital. It seems to me that if we would remedy the existing evil one way would be to pay the attending surgeons and gynecologists at all of our charity hospitals for their service.

Dr. Albert Goldspohn:—I think there is much truth in what the essayist, Dr. Barrett, has said; nevertheless, we must give credit to a considerable number of surgeons who are able to do the surgical part of gynecology quite well. But the mistake comes in thinking that it is only surgery that is required. There an injustice comes to women very frequently. The mistake is made that, in place of special medical treatment, there is either too much operating or that the woman usually gets no help, or she is consigned to the indefinite realm of hysteria, because the surgeon does not know better. To my mind, the seriousness of the problem is this: Gynecology is a very broad subject. It is medical. It is surgical. It is neurological. The gynecological symptoms are so greatly intertwined with specific medical and neurological symptoms that a man must be fairly well versed in these three branches to make a correct diagnosis in all cases. Of course, only such a one can render the best service in the case, who is well versed in everything that is regular in internal medicine and in the ordinary practice of neurology, and he must be a surgeon also. A correct diagnosis in a gynecological case will be obtained best if that case is first gone over medically, then neurologically and, last but not least, gynecologically. Only when we take evidence in that manner will we be able at the end of all these examinations to solve correctly the problem whether certain anomalies we find in the pelvis have probably some evil meaning or not, and to what extent. I contend that the man who operates all over the body as a general surgeon and does good work must necessarily devote most of his time, study and experience to those other parts, and, therefore, he can not, unless he be more than an ordinary man, be so broad as is required to be a correct, scientific gynecologist.

Again, another mistake is this, that gynecology is not all surgery. There is much of it medical, and, if we would be the best help to women, we not very frequently have to make a combination of medical treatment and surgical treatment, either medical first and surgery afterward, but more frequently surgical first, and the medical and neurological treatment following the surgery. The gynecologists who have mistakenly not observed this policy have frequently decided that many a uterus which is somewhat obstreperous had better be removed. This results in slaughter, or in what I consider butchery, which would not be the case if the gynecologist or surgeon recognized efficient scientific local and general medical and neurological methods that can be used to supplement the surgical treatment. For instance, we know that there are numerous cases of old, chronic

metritis, as a displaced uterus with a pathological cervix and diseased appendages, which requires operation. We should surgically correct the interior condition of the uterus, do away with the pathological cervix, correct the displacement by a correct anatomical operation, and reconstruct its appendages. Then we have still remaining a sore, heavy and more or less unhealthy fundus or body of the uterus, which has troubled many men to that degree that they have declared hysterectomy to be the treatment for all such cases. I know that that is a mistake. Those cases can be relieved and restored to health, and the menstrual function and other comforts that it entails can be saved for women. How can this be done? I might mention, among other things, uterine massage and galvanism, and the electrolytic use of iodine. Many cases do not require surgical treatment at all and may be relieved or cured by less radical measures.

Dr. Barrett (closing the discussion):—I have no new points to add. I agree thoroughly with the statement made by Dr. Reitman, that doctors ought to be paid for their services at the Cook County Hospital, but I would be willing to get along without compensation. I also agree thoroughly with what Dr. Goldspohn has said. The question is not whether some surgeons can do good gynecology, because some surgeons can do fairly good operative work. The question is not whether every man who calls himself a gynecologist can do good work. Some of them do poor work. That is true. The question is, What fits the man best to do work, by devoting all his energy to that work, by devoting his time to reading up on matters pertaining to that work and attending medical societies whose papers and discussions are devoted to that line of work, or by keeping away from medical societies and not giving attention to them? Those who give attention to this subject, as a class, will do far better work for science and humanity than those who only practice gynecology as a side issue.

Exhibition of cases: 1, Gunshot wound of the liver; 2, conservative surgery of the fingers; 3, urethral calculus; 4, exhibition of nasal splint; 5, sarcoma of gluteal region; 6, macroglossia, by Daniel N. Eisendrath, M.D., Chicago.

GUNSHOT WOUND OF THE LIVER.

The first case I wish to show you is one of gunshot wound of the liver. This man entered my service at the Cook County Hospital, suffering from a gunshot wound of the abdomen. The charts will illustrate what I have to say very well. This man was shot about 4 o'clock on the morning of November 25 last with a 44-caliber revolver. The bullet entered the ninth intercostal space close to the angle of the scapula. He was admitted at about 5 o'clock in the morning, and I saw him at half past 7 the same morning, when he was suffering from internal hemorrhage. His pulse was small and rapid. There was evidence of free intraperitoneal hemorrhage in the form of dullness along the flanks, and there was beginning rigidity in the right upper quadrant of the abdomen. On account of the wound of entrance being at the angle of the scapula, at about the ninth rib posteriorly, and feeling the bullet at the ninth intercostal space in the mammary line, we made up our minds, on account of combining that with the symptoms of hemorrhage, he must have a wound of the liver. We did not explore the posterior wound at all. I made an incision through the right rectus muscle from the costal arch downward about a distance of three inches and found upon entering the peritoneal cavity that there was a tremendous amount of clotted and liquid blood coming from the large wound in the right lobe of the liver. This wound of the liver was almost inconceivably large, considering that the patient was still alive. The wound of the liver extended, as this chart shows, and practically divided the entire right lobe into two parts, there being only a shred of tissue at the lower edge of the liver still remaining. The wound was so large that we could put two or three hands directly into it after exposing it in the manner I have described.

The question came up as to whether to suture this wound or to adopt some other method of treatment. On account of having been successful in a previous case by adopting a method which is not generally used by surgeons, I was successful, and that is tamponade, tamponing the wound with a considerable amount of iodoform gauze, which we did in this case very successfully. I found

it was impossible to tampon the wound from below the costal area. In other words, I was unable to get sufficient gauze to stop the hemorrhage, so that I resected two inches of the ninth rib, where the bullet came out and where the rib was fractured by the bullet, and that gave me direct access to the subphrenic space without opening the pleural cavity. The direction of the bullet is shown here in the second chart, entering the ninth intercostal space posteriorly, traversing the pleural cavity, went through the diaphragm twice, and then through the liver its entire distance. Resecting the costal arch gave me excellent access to the liver. A five-yard strip of gauze was not sufficient to control hemorrhage. We put in a second strip of gauze and finally, in order to check the hemorrhage, it became necessary to put in altogether twenty-five yards of gauze. We kept the gauze in there for two or three days, and on the third day, in attempting to remove some of the gauze, there occurred a tremendous hemorrhage. The patient, however, made an uneventful recovery so far as the abdomen was concerned. Following the healing of this wound, he got an empyema, so that it was necessary to drain the pleural cavity close to the wound of entrance. We found the bullet anteriorly.

This case illustrates the great advantage of tamponing in large wounds, such as this of the liver, after a gunshot or after a crushing injury, such as may follow a rupture of the abdominal viscera. I thought the case might be interesting to you, because of the high mortality attending these wounds, and occasionally it is gratifying to show a patient who has recovered after having sustained such an injury.

CONSERVATIVE SURGERY OF THE HAND.

I want to show this case in order to illustrate a point in the conservative surgery of the finger, something which is not major surgery, yet it comes up occasionally to the general practitioner, and I thought it might be of interest to present this patient to you.

The man is a chauffeur by occupation. He got a little too familiar with the fly-wheel while it was in motion, and sustained a crushing injury of the fingers. The chief points I want to bring out are these: This is the second time I have tried the experiment of making a stump composed of the first phalanx of the first finger, then utilizing the interossei and lumbricales, slipping them into the tendon sheaths and suturing them to the extensor tendons, which gives him more powerful flexion of his fingers than he would have otherwise. It will aid him greatly in the usefulness of his fingers, considering his occupation is that of chauffeur. Four weeks have elapsed since the operation was done, but even at this time union of the tendons has been so good that it gives him good control of the fingers. Another point is this: We had simply nothing to hope for in this case. It looked as if we would have to amputate the third metacarpophalangeal joint, but I adopted a plan which I carry out as a routine measure at the Michael Reese Hospital, namely, after the first hemorrhage is checked, we keep on a wet dressing of salicylic solution until the case is through. In that way we keep up nutrition of the flap, prevent sloughing, and consequently we prevent infection.

URETHRAL CALCULUS.

The third case I wish to show is rather unusual. This boy was 5 years of age when he entered my service at the Cook County Hospital, in October or November of last year. He was admitted with a diagnosis of retention of urine. The interne called me up and said his bladder was distended to the level of the umbilicus. I gave him permission to do a suprapubic puncture, which he did and withdrew about 22 ounces of turbid urine. He tried to catheterize this boy, but could not pass a soft rubber catheter. When I saw the boy, his bladder was distended to the level of the umbilicus. I saw a couple of drops of yellowish pus exuding from the meatus. I thought at first the case was one of retention of urine in a child. I tried to insert a catheter, a soft rubber catheter, but was not successful in so doing. I then tried to insert a metal catheter, and in the posterior portion of the urethra I encountered a clicking sound typical of a calculus, and found

upon further examination that this urethral calculus was firmly imbedded either in the membranous or prostatic portion of the urethra—it was hard to tell which. Having gotten this clicking sound from the calculus, the question came up what to do. The usual method would be, of course, to try to dislodge this calculus and remove it from the urethra. This was found impossible, and the next question was to do a perineal section. I decided not to do that, because I had an experience with one boy who had a rupture of the urethra with a fracture of the pelvis. I then thought of doing an external urethrotomy, but, after further consideration, we thought the best thing to do was to do a suprapubic operation, and this turned out to be the best procedure, although it seemed more radical, because when we opened this an enormous quantity of urine escaped. The urine was very turbid, showing that the calculus had undoubtedly been there for some time and had caused infection. We found simply by passing a sound through the anterior urethra that we could bring the sound into the bladder and extract the calculus with ease. It took several months for the wound to heal on account of the septic condition. Finally healing took place and the boy was discharged from the hospital four weeks ago.

EXHIBITION OF NASAL SPLINT.

A number of times I have been called to see cases of fracture of the nasal bones, and, as everybody has had experience with them, you know how difficult it is to keep the fragments in position, especially in those cases of fractures or dislocations at the junction of the lateral cartilages of the nose and nasal bones, so that I tried the use of a splint which was spoken of in one of the text-books on surgery and known as the Cobb-Coolidge nasal splint, and I thought the members of the society would be interested in seeing this splint. I have had a little modification of it made which works much easier than the one described in this book. I want to show you how quickly it can be fitted. It has a head band like an ordinary head mirror has, and this fits on both sides of the nose so that you can regulate the pressure. Patients can wear it with a moderate amount of pressure on it, in cases of dislocation of the lateral cartilages or nasal bones. I let patients wear this splint, say, for half an hour in the morning and half an hour in the evening.

I have used it in three cases, and Dr. Greensfelder, my colleague, has used it in two cases, and both of us have obtained excellent results by combining it with the correction of traumatic deviations of the septum. The only modification I have made in this splint is this little bridge which you see.

ROUND CELL SARCOMA.

I want to show you a specimen from a case which entered my service at Cook County Hospital last Friday. This man was detained in the Joliet penitentiary for some crime or other, and I learned that about four months ago a surgeon removed a tumor about the size of a baseball, and that since that time there has been a recurrence of the tumor at the place where it was removed, and that this tumor has grown in the last four months to its present enormous size. I saw him outside of the hospital on Friday in the stages of extreme anemia from hemorrhage due to ulceration of the tumor. On account of the tremendous size of the tumor and the cachexia that was present, there was no question as to what should be done, and the only thing we thought of was to amputate the limb, which we did. The case is very interesting on account of the enormous size of the tumor. We do not often find tumors attaining such a large size—at least in this locality—but this tumor was allowed to grow without anything having been done for the patient. We have not examined it microscopically as yet. We hope to have a microscopical report of it to-morrow. Professor Herzog thinks it is a small round cell sarcoma growing not from the periosteum, but in all probability from the cellular tissue, either from the intermuscular septum or the muscle itself. It undoubtedly started from the gluteal region and then grew forward.

MACROGLOSSIA.

I want to show you this little boy, whose case is one of great rarity and one about which operative interference is still a question. I tried once to operate on it, but not very successfully. It is a case of macroglossia or lymphangioma of two types, of the capillary type and of the venous type. I saw him for the first time three years ago. The condition has improved spontaneously considerably more than anything I could do for it. Three years ago I tried the method of puncturing the tongue at a number of different places. I find that the boy's tongue has decreased considerably in size since that time, but you can still see the patches of ichthyosis on it and the little vesicles which are the lymphangioma of the capillary type. It is an extremely rare condition and hardly represents what it did six months or a year ago. Then the tongue was enormous in size. The boy is now 7 years of age, but when I first saw him he was only 4 years old. I have done absolutely nothing since that time when, as I have told you, I made multiple punctures with the thermocautery, punctured the little vesicles and made deeper punctures into the tongue.

CHICAGO UROLOGICAL AND CHICAGO MEDICAL SOCIETIES.

A joint meeting of these societies was held March 18, 1908, with the president of the Chicago Urological Society, Dr. J. A. Patton, in the Chair. Dr. Robert H. Herbst read a paper entitled "The Serum Treatment of Gonorrhea, with Report of Cases." This paper was discussed by Drs. Wm. T. Belfield, Victor J. Baceus and, in closing, by Dr. Herbst. Dr. B. C. Corbus read a paper on "Fistulae of the Male Urethra Anterior to the Prostate." Dr. H. S. Gradle demonstrated a rapid clinical stain for the *Spirocheta pallida*. This was discussed by Drs. Adolph Gehrmann, Fred G. Harris, and the discussion closed by Dr. Gradle.

Dr. Robert H. Herbst read a paper entitled "The Serum Treatment of Gonorrhea, with Report of Cases."

DISCUSSION.

Dr. Wm. T. Belfield:—As I have had general supervision over the work in the Rush College clinic, to which Dr. Herbst refers, and have watched carefully several of those cases, I know that he has stated the results attained there with perfect accuracy. I have obtained similar results in private cases, some fifteen in number, in which I have had the privilege of using this serum through the courtesy of the makers. It is striking that a remedy which has such a pronounced and almost uniform effect on so-called gonorrheal rheumatism, should have virtually none in the proven gonococcus infections, including the urethra and epididymis, and some of the joints; yet in these joint cases, which we have been in the habit of calling, on clinical grounds solely, gonorrheal rheumatism, the results have certainly been very pronounced and very gratifying. It is probably twenty years since we learned that the mere opening of the abdominal cavity sufficed for the mitigation, sometimes the apparent cure, of tubercular peritonitis; while tuberculosis of mucous membranes—the bladder, for instance—is not thus influenced. It is possible that there is some such difference in the relations of the gonococcus to serous and mucous membranes.

The reaction which he has described has not been observed in the cases I have treated in the same degree. Usually there has been no reaction whatever, but I have made the injections into the muscles and not subcutaneously as he has done. Possibly the difference in local effect is explained in that way, as I have been using the serum from the same source.

Dr. Victor J. Baceus:—I wish to report a successful case similar to those described by Dr. Herbst, which was treated by serum obtained from Dr. Torrey, of New York. This case occurred in the practice of a professional friend, Dr. W. Vary, and I was called in consultation to see the patient who gave a definite history of gonorrhea existing about four months. He developed arthritis of the right wrist, which was not extensive, but the swelling extended along the extensors and flexor tendons to the middle of the forearm. There was no doubt as to the diagnosis of gonorrhea being correct, since gonococci were found in the

secretions. As other measures had failed, it was decided to use the serum, which was injected subcutaneously. We were very much alarmed twenty-four hours later when we were called to the house of the patient and found extreme edema extending from the wrist up to the shoulder. At about that time Dr. George W. Webster had reported a case in *The Journal of the American Medical Association* in which there was a violent reaction from the use of the serum, and, as we could not reassure the patient in any way that he would eventually be all right, Dr. Webster was consulted, as he was probably the first to use it in this city. The symptoms in this patient lasted about forty-eight hours, then there was a gradual subsidence of them. In addition to the swelling present, there was elevation of pus and temperature which lasted for forty-eight hours; with two additional injections the patient made a perfect recovery of the gonorrheal arthritis, but the serum had absolutely no effect on his posterior urethritis.

Dr. Herbst (closing the discussion):—I should like to ask Dr. Baccus if the serum was taken from rabbits or from the ram.

Dr. Baccus:—We wrote to the Cornell Laboratory and got it direct from them. This was about three months ago.

Dr. Herbst:—Probably you got rabbit serum. The reaction from the early serum they made was quite severe. I have not seen any reaction to cause alarm in many of my injections, and I have used as high a dosage as is necessary. How much did you use, Dr. Baccus?

Dr. Baccus:—We used 2 c.c.

Dr. Herbst:—I will say that this serum is supplied from the experimental laboratory of Parke, Davis & Company.

DISCUSSION ON THE PAPER OF DR. GRADLE.

Dr. Adolph Gehrmann:—I wish to compliment Dr. Gradle if he has found a reliable and rapid clinical stain for the spirochete pallida and one that is as satisfactory as he has described. The amount of work that has been put on this subject is large, and if one looks over the literature and sees the number of different stains that have been tried we will find that the workers who have been busy with this subject have met with great difficulty in finding a stain that is entirely stable. I have tried Goldhorn or Nocht methods more than others, finding that they are, at least for spirilla spirochete and such organisms as we find belong to this type in the sputum, for instance, more satisfactory than the Giemsa method. We desire a rapid method of staining the organisms a deep color, so that the amount of hunting over slides now required can be avoided.

Dr. Fred G. Harris:—I have not seen Dr. Gradle's preparations, but I have worked many hours in trying to stain the spirochete with the Goldhorn, the Giemsa and other methods, and the results have been absolutely negative. I have also had some experience with the ultramicroscope. With the newer forms of the ultramicroscope it is easy to find the spirochete. It is a matter of a few minutes' time, and it is a great clinical advantage. The spirochete can be found in practically every case of syphilis in the primary lesion and in a larger number of the secondary lesions. I have not been able to find them in the circulating blood. They have been found so seldom in that medium, and if by his method Dr. Gradle has been able to find them in the circulating blood it is a great advance.

Dr. Gradle (closing the discussion):—In regard to finding the spirochete in the circulating blood, the citation of one case I have examined may prove of interest. A woman came to the skin dispensary with a marked secondary rash just beginning. She had had the primary lesion some two months previously, so far as we could tell. As she had just come from the gynecological dispensary, it was known there were no noticeable lesions of the genitalia. At that time she began to menstruate, and I examined the menstrual blood, and in it found several unquestionable spirochete. I believe they came from the circulating blood rather than from any lesion of the genital tract.

CHICAGO SURGICAL SOCIETY.

Regular Meeting, held Dec. 6, 1907.

A regular meeting was held Dec. 6, 1907, with the President, Dr. A. J. Oelsner, in the chair. Dr. John B. Murphy read a paper on "Tuberculosis of the Patella."

DISCUSSION.

Dr. Arthur Dean Bevan was much impressed with what Dr. Murphy said about placing the joint in a condition in which it will resist any possible infection by the chemical inflammation which precedes the operative treatment. He recalled one case of tuberculosis of the knee-joint in which the patella was the primary focus. In that case he found a single bean-shaped focus in the patella, with an extension of the process to the synovial membrane, and the operation consisted merely in opening the joint, sawing through the patella, finding the focus, removing it, and making a clean dissection of the synovial membrane, with iodoformization, and then closure of the divided patella. The result was one of the best which he has had in operative work for tuberculosis of the knee.

Dr. William J. Mayo, of Rochester, Minn., by invitation, recalled one case of apparent primary tuberculosis of the patella in which the patella was removed with a very good result following. One thing that struck him was the statement by Dr. Murphy that primary operation for fracture of the patella has become obsolete. He would agree that the intermediate operation is unsafe, but he has not seen any difficulty from doing the primary operation in certain cases seen a few hours from the time of the injury, before there is joint effusion, and where there is but little injury to the knee-joint outside of the patellar fracture. In the intermediate stage, say from twenty-four hours to the end of a week, fortunate results sometimes occur following operation. He said he would try the formalin-glycerin treatment suggested by Dr. Murphy in cases of chronic hydrops of the knee-joint.

Dr. Wm. E. Schroeder does not hesitate to operate on fractures of the patella as soon as possible, and does not recall ever having had an unfavorable result by so doing. In the cases produced by indirect violence there seems to be no indication for delay. Here we would only expect a hemorrhage to take place which can be prevented by an immediate operation. In the cases in which there have been effusions, he has not hesitated to operate as soon as convenient, with equally good results. The circular suture was used, and the material is catgut, wire or silk, and with seemingly good results.

Dr. Charles L. Scudder, of Boston, has had no personal experience with tubercular osteomyelitis of the patella, but recalls a case of double fracture of the patella in which the bones were so comminuted and literally smashed that they could be rendered of no use to the individual, but in which both patellæ were removed and the fracture used to connect the quadriceps with the patellar tendon. In this case the functional usefulness of both knees was excellent.

Dr. Daniel N. Eisendrath was interested in the case shown and result following excision of the patella, in that it confirms his observations of one case of excision of the patella, combined with an arthrectomy of the knee-joint, in which the power of extension was as perfect as in Dr. Murphy's case. Last spring he was consulted by a patient who sustained a fracture of the patella two years before, and who had separation of two and a half inches between the fragments of the patella. As there was a palpable deformity, the question arose as to whether an operation would be of some avail. He tested the power of extension, which was almost perfect. Koenig states that among 720 cases of tuberculosis of the knee-joint the patella was involved fifty times, and of these fifty cases thirty-three were primary.

Dr. M. L. Harris has not seen a case of primary tuberculosis of the patella. In all the cases he has seen in which the patella had been involved, the other bones of the knee have likewise been implicated. Although he has removed the patella two or three times, the operations have always been more extensive than simply the removal of the patella, because other bones were involved.

Regarding fractures of the patella, it has been his rule to operate on practically all cases. He operates on all cases unless there is some distinct contraindication. It has likewise been his rule to wait until the stage of effusion has passed, or until it begins to subside. This varies from two or three days to a week. If a fracture of the patella is operated on at once, the joint will fill up with fluid, very much increase the effusion, and tend to separate the fragments. Another reason is that the joint, he believes, and as Dr. Murphy states, is less likely to infection because the blood, which always escapes into the joint, is one of the best agents we know of to produce a leucocytosis. Hemorrhage into one of the cavities of the body will produce a general leucocytosis within a few hours.

POST-TRAUMATIC ANGIO NEUROTIC EDEMA.*

GEORGE DE TARNOWSKY, M.D., CHICAGO.

Attending Surgeon Chicago Union Hospital and Ravenswood Hospital.

In presenting for your consideration to-night this brief report of an unusual but not rare disease, I wish to state that I have no new theories to propound regarding its causation or pathology. Quinke first described it as acute circumscribed cutaneous edema in 1882. It has in turn been called giant urticaria, hydrops hypostrophus, epidermolysis bullosa hereditaria, angioneurotic edema and Quinke's disease.

Etiology: This affection is distinctly a family affection. Neurotic predisposition, migraine, Graves' disease, intoxication, thermic agents and trauma have all been held responsible for the onset of the edemas.

Pathology: The view most generally held is that we are here dealing with a vasomotor trophic neurosis.

Symptoms: The chief symptom is the presence, on the skin or mucous membrane of a circumscribed swelling which develops rapidly, is rather sharply defined, and does not pit on pressure. The overlying tissues are pale, but may be red, and the patient complains of a feeling of tension and sometimes of intense itching. The extent of the swelling varies from the size of a split pea to that of a large plate. As a rule it declines and vanishes after a few hours or days. No part of the body is exempt. Acute edema of the larynx may produce alarming symptoms.

Treatment: Management of the neurosis and careful regulation of the diet are the principal points insisted upon. Atropin, strychnia, arsenic and electricity have all been recommended.

Prognosis: The course of the disease is exceedingly chronic, but the prognosis as regards life is good.

CASE.—Mrs. X., age 34, married nine years. No children. Patient states that she has never wanted children and has so far succeeded in avoiding pregnancy. She is a society woman in good circumstances and has never had any family worries or responsibilities. She comes of a healthy family in which neuroses have apparently gained no foothold. There is no history of similar edemas in her family obtainable. Her general health has always been of the best, and, barring a few diseases of childhood, she has never had to consult a physician until recently. Fourteen months ago, while alighting from a street car, she slipped and sprained her right ankle. In falling she also struck her upper cervical vertebra against the curbstone, causing no external wound, but severely jarring her spine. Recovery from the sprain and cervical hyperesthesia was slow. Two months after the accident patient became provoked about some household matters and lost control of her temper. Within an hour of this event she began to notice a swelling and paleness on the right side of her chin and lower lip. This swelling was not accompanied by pain, but there was marked stiffness of the parts involved, and the lower lip became everted on the affected side.

* Read before the North Shore Branch of the Chicago Medical Society, March 3, 1908.

Since that time these edemas have recurred at irregular intervals. On two or three occasions in the past year they have seemed to precede menstruation; as a rule they are closely associated with mental disturbances. The patient tritely expresses the situation by saying: When I feel ugly I get ugly.

Examination.—Patient is a well developed, robust looking woman. Her appetite is good, bowels regular, menses normal, and she rarely suffers from insomnia. The thorax and abdomen gave negative findings. The right ankle is anatomically and functionally normal. The lower three cervical spines are slightly tender on light palpation, but deep pressure is negative and there is no nerve disturbance to be demonstrated. The superficial and deep reflexes are somewhat exaggerated. The buccal and naso-pharyngeal cavities are normal. There was no edema present at the time of the first examination, but the history and description of her ailment were so graphic that a tentative diagnosis of angioneurotic edema was made and patient was requested to report to my office at the first reappearance of her trouble. In the interim she was given capsules containing strychnia, atropin and arsenic acid three times daily. Six weeks elapsed, and I had concluded that the patient had been led to consult some other physician, when she arrived at my office and stated that she had had a violent altercation with her maid that same morning. The change in her appearance was startling. The right side of the chin and right side of the lower lip were enormously swollen and waxen in color; the tissues were tense, but there was very slight pitting on pressure. The surrounding tissues were normal. While the edema slightly overlapped the median line, it was manifestly a unilateral condition. I may add here that in subsequent attacks the edema has been on the right side with one exception, when the left side of the upper lip became the site of the swelling. Patient was very much depressed mentally and bitterly deplored her lack of control over her temper. The pulse, temperature and respirations were normal.

Galvanization of the affected area was tried and patient warned of the danger of mental excitation. The next three months were melancholy ones, both for physician and patient. Edema succeeded edema, some swellings lasting from three to six hours, others from twenty-four to thirty-six hours. Various remedies were tried without avail; vibratory massage, faradization and galvanization were given a trial and discarded. The patient's *modus vivendi* was overhauled, changed, rearranged and changed back again; she again took up her music seriously after having discarded it for years; she took to walking, golfing and tennis—she followed my directions implicitly, but derived no benefit from any of my suggestions. About four months ago she came to me one morning and again begged for relief from her edema which was then quite pronounced; she had to attend some social function that same afternoon and did not have the moral courage to exhibit her deformity. Adrenalin chlorid, given internally, per os, then suggested itself to my mind for the first time, on account of its well-known action on the vaso-constrictors. She was given a prescription containing grs. 1/32, or 30 minims of the 1 to 1,000 solution per dose, to be repeated in two hours if needed. An hour after taking the first dose she telephoned me that her chin and lip were normal in size, but that her entire face was rather blanched and that she felt slightly dizzy. Her edema did not reappear for several weeks, and was then again successfully and rapidly controlled by the same dose of adrenalin chlorid. She now carries her solution with her wherever she goes, and uses it at the first indication of edema. She has taken, under my supervision, as large a dose as one-twentieth of a grain, or forty minims of the 1 to 1,000 solution. Given in this amount, the entire face blanches rapidly and she complains of slight headache with vertigo. There is a decided slowing of the pulse, with increased arterial tension lasting from one to two hours. There have, so far, been no pernicious after effects. It is generally believed that adrenalin chlorid is not cumulative in its effects and never involves the danger of forming a habit. Never having heard or read of suprarenal therapy being used in angioneurotic edema, I present this preliminary report of my case and hope that it may be productive of further investigation along the same lines.

DEKALB COUNTY.

The DeKalb County Medical Society met at DeKalb, April 24, 1908. The regular meetings are the last Fridays in January, April, July and October. The officers elected were as follows: President, A. M. Hill, Genoa; vice-president, C. B. Brown, Sycamore; secretary-treasurer, C. H. Mordeff, Genoa; delegate, C. B. Brown, Sycamore; board of censors, C. W. Gould, Fairdale, O. J. Brown, DeKalb, and R. T. Smith, DeKalb.

HAMILTON COUNTY.

The Hamilton County Medical Society met in regular session Tuesday, April 14, 1908, with nearly all the members present. Dr. Wheeler, of Broughton, and Dr. Bozarth, of Walpole, were visitors. The following officers were elected for the next year: President, Dr. I. W. Asbury; first vice-president, Dr. H. W. Dale; second vice-president, Dr. I. I. Hall; secretary-treasurer, Dr. C. M. Lyon. Dr. C. E. Osborn, of Broughton, was recommended by the Board of Censors for membership and was unanimously elected a member. The president appointed Drs. S. W. Williams, J. J. Hassett and P. M. Nation as the Board of Censors. Interesting papers on Typhoid Fever, by Dr. H. E. Hale, and Puerperal Sepsis, by Dr. I. I. Hall, were read and both were freely discussed by the members. Dr. W. W. Hall was elected delegate to the meeting of the state society. The next meeting of the society will be held at Broughton on Tuesday, July 13, 1908.

HANCOCK COUNTY.

The regular annual meeting of the Hancock County Medical Society was held at Carthage, April 6, 1908. The following officers were elected: President, Dr. H. H. Sherwood, Bowen; vice-president, Dr. G. E. Pumphrey, Ferris; secretary, Dr. C. L. Ferris, Carthage; treasurer, Dr. R. R. Loomis, Burnside; censor, Dr. L. N. Tate, Carthage; delegate (state), Dr. J. L. Jenkins, Carthage. The program was as follows: Surgical Diseases Due to Pneumonia, Dr. S. C. Stremmel, Macomb; Addison's Disease, Dr. H. R. Folckemer, Bowen; An Incipient Case of Tuberculosis, Dr. S. M. Parr, Fountain Green; Fistula in Ano, Dr. Wm. Blender, Carthage.

KNOX COUNTY.

The thirteenth semi-annual meeting of the Knox County Medical Society was held at the courthouse, Galesburg, Thursday, April 23, Dr. G. S. Chalmers, Galesburg, in the Chair. Meeting was opened with a presidential address by Dr. Chalmers and the following papers were read: Pertussis, Dr. W. B. Gray, Altona; Importance of Early Diagnosis in Obstruction of the Bowels, Dr. E. C. Franing, Galesburg; Treatment of General Suppurative Peritonitis, Dr. Charles Davidson, Chicago; Milk, Dr. Ben D. Baird, Galesburg. A lunch was served at the Galesburg Club rooms, followed by a banquet at which the following toasts were given: The Doctor and the Dominie, Rev. J. Percival Huget; The Doctor and the Barrister, Hon. Eugene Welch; The Doctor and the Dear People, Dr. L. R. Ryan. The following officers were elected: President, Dr. C. F. Lytle, Altona, Ill.; vice-president, Dr. J. E. Cowan, Galesburg; secretary-treasurer, Dr. F. G. Hall, Galesburg; delegate (state), Dr. C. B. Horrell, Galesburg; alternate, Dr. G. A. Longbrake, Galesburg; board of censors, Dr. Wm. O. R. Brady, Galesburg, Dr. D. J. Evans, Galesburg, and Dr. C. F. Bradley, Abingdon, Ill. The meeting was enthusiastic and interesting throughout.

OGLE COUNTY.

The Ogle County Medical Society held a regular quarterly meeting in the lecture room of the Polo Public Library, and was called to order at 2 p. m. by

the president, J. M. Beveridge, of Oregon. The secretary being absent, L. A. Beard, of Polo, was chosen to act for this meeting. There were present Drs. Krebbs, Powell, Houston, Maxwell, Judson, Beard and Louise Keator, of Polo; Aiken, of Foreston; Roe and Beveridge, of Oregon; Brubaker and Price, of Mt. Morris; Brigham, of Brookville; McPherson, of Hazelhurst; Arnold, Clark and Rideout, of Freeport, and Owens, Murphy, Sickles and Law, of Dixon. Dr. Murphy presented a paper on Chemical and Physical Diagnosis of Gastric Ulcer, with an outline of treatment, both medical and surgical. Dr. Clark gave a carefully prepared and very comprehensive paper on Some Phases of Chronic Suppurative Otitis Media. Dr. B. A. Arnold spoke on Cholelithiasis and also presented a large number of specimens of gallstones illustrating different cases. Dr. E. A. Sickles gave a paper on The Ultimate Effects of Lacerated Cervix and Perineum. Dr. W. J. Rideout gave a paper on Ocular Headache, especial attention being given to what is known as reflex headache and methods of diagnosis. Dr. Brigham presented a case for diagnosis of a very large and deep facial ulcer of long standing. The papers and clinical ease were freely discussed by the physicians present, after which the society adjourned to meet in Oregon July 15, 1908.

PIKE COUNTY.

A meeting of the Pike County Medical Society was held at the office of Dr. H. T. Duffield, in Pittsfield, Thursday, April 23, 1908. The following members were present: Drs. W. F. Shastid, J. Smith Thomas, W. H. Garrison, R. O. Smith, G. U. McComas, H. T. Duffield, L. S. Laey, R. H. Main, George A. Humpert, J. Estill Miller and B. B. Dunn. Visitor, Dr. F. Johnston, of Milton, Ill. Report of committee appointed on Oct. 31, 1907, to investigate the postgraduate work in county societies was received and the committee discharged. Dr. F. Johnston, of Milton, and Dr. J. R. Pollock, of Nebo, were admitted to membership in the society. Dr. W. H. Garrison read a paper on Some Observations in the Treatment of Pneumonia. Dr. B. B. Dunn presented some notes and remarks on Gallstones. Dr. J. Smith Thomas read a paper on Puerperal Eclampsia and reported some cases. Dr. H. T. Duffield made some remarks and demonstrations on Fads and Freaks in Gynecology. Dr. George A. Humpert presented a paper on the subject of Calomel. The report of the secretary-treasurer for the fiscal year was read and approved. The following officers were elected for the ensuing year: President, Dr. L. S. Laey, Pittsfield; vice-president, Dr. J. Estill Miller, Pittsfield; secretary-treasurer, Dr. R. H. Main, Barry; delegate, Dr. J. Smith Thomas, Pleasant Hill; alternate, Dr. George U. McComas, New Canton.

RANDOLPH COUNTY.

The Randolph County Medical Society held its annual session in Sparta, April 14, with 19 physicians in attendance. Dr. H. L. LeSaulnier read a paper entitled "Childbed Infection." Discussion led by Dr. H. L. Gault. Dr. J. L. Wiggins read an interesting and instructive paper on hernia and reported a number of cases which he recently treated by surgical means. Dr. A. L. Brands reported a case of tuberculosis which he cured by fresh air and sunshine. Dr. C. W. Lillie read a paper entitled "Some Aspects of the Tuberculosis Question." Dr. D. S. Booth read a paper entitled "The Psychic Treatment of Disease." This paper was a brief exposé of the principles of mental healing, the author classifying the recognized legitimate methods of impressing the mind into (1) suggestion made upon the subconscious mind while the patient is in a hypnotic sleep; (2) suggestion made upon the conscious mind during the waking state, and (3) persuasion. The trend of the paper was to show that the tendency of the advocates of mental healing was to ignore the dependence of mind upon matter; hence they fail to recognize the now well-known physiologic fact that "the brain is the organ of the mind, and that mental operations are possible only in

and through the brain," mind being the result of the functioning of the brain, just as electricity is the product of physical agencies. Dr. H. C. Adderly delivered the annual president's address. In an able manner he pointed out the advantages which the general public as well as the medical profession derives from the work done by a live county medical society. Officers for the ensuing year were elected: H. L. Gault, president; A. L. Brands, vice-president; C. G. Smith, secretary and treasurer.

SOME ASPECTS OF THE TUBERCULOSIS QUESTION.

C. W. LILLIE, M.D., EAST ST. LOUIS, ILL.

(Author's Abstract.)

The apparent indifference to the great fatality of tuberculosis as compared to the almost fanatical excitement regarding the presence of other contagious and infectious diseases is touched upon. Deaths from consumption, it is claimed, are due to neglect on the part of some one "or, what is more probable, on the part of many." The popular, and to some extent the professional belief, that consumption is incurable is claimed to be due to the late diagnosis usually formerly made, but does not now prevail to such an extent because it is recognized early enough to treat, as Hippocrates suggested, "from the beginning." Early diagnosis is the hope of the human race. There are two reasons for this: First, it enables us to cure our patient, and, second, it removes another source of infection which, if neglected, might cause many exposures. Of the early signs of the disease, the changes in the breath sounds, altered percussion note, râles, increased pulse, increased temperature, loss of weight, tired feeling, increased nervous irritability, are mentioned as significant, and such as require a most careful investigation that any other disease giving the same or part of the same symptoms may be excluded. It is urged that if tuberculosis is present the patient should be taken into the confidence of the doctor; that in case of suspected tuberculosis it is often advisable that the patient be informed of the fact in order that his hearty cooperation be secured. Advertising of "cures" for consumption in the lay press is most earnestly condemned. It is strongly insisted that "good food is the only tissue builder." An "amazing feature" is that cities, counties and states take so little interest in the care of the tubercular poor. That attention to this would remove many consumptives from shops, stores, bakeries, dairies, households and other places where they are continually exposing others to the contagion; that so many in the "servant class" are tubercular that practically every person employing labor in any form will subject themselves to danger of infection. It is insisted that the care of the tubercular poor is a public duty, and that its cost would be one of the best investments any community could make. Allusion to epidemics of smallpox which never cause more than a small fraction of the deaths now continually due to consumption, and the excitement attendant upon them, is commented on. The Glackin bill passed by the Illinois Legislature is commended and a hope is expressed that many communities will take advantage of its provisions. It is also urged that the local sanitarium should meet with greater favor than any one remote from the home of the patient. It is pointed out that there will still be many who can not be treated in sanatoria, and that these should have the best "home treatment," and that for many patients this is even better than sending them from home. "Drug treatment" is not to be encouraged, though careful medical supervision is necessary, and drugs are often necessary to meet certain indications. Change of climate is not advised. The secret of success lies in the improvement of nutrition, and of the things which contribute most to this plenty of nutritious food, rest of body and mind, abundance of fresh air day and night, are the essentials. A brief outline of the treatment of certain conditions is given in the paper, but they are matters of detail which can not well be rendered in abstract. The tendency of the paper is decidedly optimistic, and allusion is made to the general interest in the subject by the laity.

HERNIA. REPORT OF CASES. DEDUCTIONS.

J. L. WIGGINS, M.D., EAST ST. LOUIS, ILL.

(Abstract.)

In this paper the author recites the histories of four cases operated on by him recently, which aptly illustrate conditions resulting from the two types of hernias classed as acute or traumatic and chronic. The two traumatic cases are practically parallel. Both followed an accident, leaving no doubt as to whether the rupture was of traumatic origin *per se* or whether a hernia previously undiscovered existed, giving rise to symptoms, only after the reception of the injury. In the chronic cases, each of which had existed over a long period of years, although unrecognized as such, symptoms followed closely upon addition to the hernial sac of other abdominal viscera.

The author reiterates the findings of Coley, Berger, McCready and others relative to the congenital weaknesses and pathological conditions found in a long series of abdominal operations. The result of Murray's 200 postmortems, in which 47 cases were found with peritoneal diverticulae, is also extensively quoted, the fact being emphasized that, while many might go through life performing ordinary duties without mishap, yet upon receipt of unusual violence or pressure a potential hernial sac develops into a hernia.

In conclusion, the author states that "in every case of hernia in which the force applied is not sufficient to cause a rupture of muscle fibers and fascia there existed a preformed sac, and a further force sufficient to cause rupture at any of the hernial orifices would cause it at any point of the abdomen," but "that were it not for the injury said potential hernial sac might never have received its contents, and consequent morbidity have been escaped."

ROCK ISLAND COUNTY.

The annual meeting of the Rock Island County Medical Society was held at the Harper House, Rock Island, Tuesday evening, April 14, 1908. Roll call showed 26 members present. Mr. Phil Mitchell, of Rock Island, was present by invitation and described a pneumatic splint he has recently invented and had patented, the principle of the splint being a flat, inflatable rubber bag which is wrapped about the part to be immobilized. A non-elastic sheath surrounds the whole. By inflation of the bag, as much or as little pressure as is desired may be produced upon the splinted member. Mr. Mitchell claims for the splint convenience and comfort, in addition to efficiency. The demonstration was received with interest by the society and the splint was freely discussed, the consensus of opinion being that Mr. Mitchell has hit upon an idea destined to be of value in surgical practice. Mr. Mitchell was accorded a vote of thanks and elected to honorary membership in the society. During the business session Dr. B. J. Lachner, of Rock Island, was elected to membership and Dr. B. E. Jones to honorary membership. Election of officers for the ensuing year resulted as follows: President, Dr. T. J. Lamping, Moline; first vice-president, Dr. W. H. Ludwig, Rock Island; second vice-president, Dr. M. S. Dondanville, Moline; secretary, Dr. H. L. Yontz, Moline; treasurer, A. E. Williams, Rock Island. The retiring president, Dr. S. B. Hall, will represent the society at the state convention in May.

STARK COUNTY.

The Stark County Medical Society met in Toulon on April 14, with the following members present: Dr. J. R. Holgate, Wyoming; Dr. W. D. Chrisman and Dr. W. C. Mitchell, Bradford; Drs. M. T. Ward, L. L. Long, E. B. Packer and W. T. Hall, Toulon; Dr. D. F. Stewart, Elmira, and Dr. C. Berfield, Castleton. Dr. Mitchell read a very interesting paper on the Summer Diarrheas of Children, and Dr. Berfield on the Conduct of Normal Labor, and both papers were well

presented and discussed. The following officers were elected: President, Dr. J. R. Holgate, Wyoming; vice-president, Dr. C. Berfield, Castleton; secretary-treasurer, Dr. D. F. Stewart, Elmira; censors, Dr. M. T. Ward of Toulon, Dr. J. S. Wead of Wyoming, and Dr. C. Berfield of Castleton; delegate, Dr. M. T. Ward, Toulon; alternate delegate, Dr. R. King, Wyoming; member of Medicolegal Committee, Dr. E. B. Parker, Toulon. After a lengthy discussion on the question of insurance examination fees and the pernicious habit of physicians bidding for pauper practice, the society adjourned to meet in Toulon on the second Tuesday in October.

D. F. STEWART, Secretary.

WABASH COUNTY.

The regular meeting of the Wabash County Medical Society was held Tuesday, April 28, 1908, 3 p. m., at Dr. Schreck's Hall, Mt. Carmel, Ill. Meeting was called to order by the president, six members being present as follows: Drs. R. J. McMurray, St. Francisville; C. E. Gilliatt and J. J. McIntosh, of Allendale, and Drs. J. B. Maxwell, S. W. Schreck and W. E. Mercer, of Mt. Carmel. Dr. J. J. McIntosh reported a case of occipital meningocele, four months old, with photographs, and promises a detailed report of same later. Dr. S. W. Schreck exhibited a fetus representing the anencephalus type of monstrosity. Dr. C. E. Gilliatt read a very interesting paper on the Dietetic Treatment of Dyspepsia, recommending that more attention be given to the subject of dietetics in our colleges and emphasizing the value of the non-rigid enforcement of the rules of diet by the general practitioner. Dr. J. B. Maxwell presented the Treatment of Cholera Infantum in a clear, concise manner and, with discussion and experiences related, will no doubt be beneficial to those present during the coming hot season. The application of Dr. Matina T. Brian, of Bellemont, having been received and recommended by the Board of Censors, on motion, was elected to membership by acclamation. Dr. R. J. McMurray, of St. Francisville, and Dr. J. J. McIntosh, of Allendale, were elected delegates to the Illinois State Medical Society.

WAYNE COUNTY.

The Wayne County Medical Society met at Cisne in the office of Dr. C. O. Truscott, Thursday, April 30, 1908. President Dr. F. Bean was not present, and Dr. W. M. Johnson was elected chairman. Election of officers for the ensuing year: President, Dr. W. M. Johnson; vice-president, Dr. N. J. Hall; secretary-treasurer, Dr. J. P. Walters; delegate to the state convention, Dr. J. F. Sinclair; alternate, Dr. N. J. Hall; censors to be appointed by president when needed. Annual dues were paid by Drs. W. M. Johnson, C. E. Johnson, C. O. Truscott, J. F. Sinclair, N. J. Hall and J. P. Walters. The name of Dr. Ed E. Roberts, of Mt. Erie, was proposed for membership and he was regularly elected. The noon hour having arrived, Dr. Truscott invited all present to his residence, where an excellent dinner awaited us, of which we all partook heartily. In the afternoon Dr. Truscott read an interesting paper on Influenza, and Dr. Walters reported a case of Delayed Resolution in Pneumonia, both of which were freely discussed by all present. It was the unanimous decision of the members present that Dr. Truscott send in his paper to THE ILLINOIS MEDICAL JOURNAL for publication. Adjourned to meet at Fairfield, Thursday, July 16, 1908.

J. P. WALTERS, Secretary.

NEWS OF THE STATE.

PERSONAL.

Dr. Thomas A. Woodruff has been elected president of the Calumet Club.

Dr. H. R. Marsh, La Hogue, has returned to Alaska as a medical missionary.

Dr. Edward A. Fischkin has been elected president of the Jewish Civil League.

Dr. Edward F. Garraghan has returned after a five weeks' trip to the Pacific Coast.

Dr. Otto T. Freer has been elected a member of the Royal Society of Medicine of London.

Dr. Charles K. Unkrich, Monmouth, has recovered from his recent attack of appendicitis.

Dr. Gustav Kolischer was operated on May 2 for appendicitis and is reported to be doing well.

Dr. and Mrs. Ewing have gone abroad for a wedding trip and will return to Lincoln August 1.

Dr. Thomas J. Robeson, who has been critically ill with pneumonia, is now reported to be convalescent.

Dr. Ralph E. Neidringhaus, Granite City, is seriously ill with typhoid fever at the home of his father-in-law in St. Louis.

Mr. B. G. A. Moynihan, chief surgeon of the Leeds (England) Infirmary, delivered an address at a special meeting of the Chicago Medical Society, May 14.

Dr. Will B. Peck, Freeport, coroner of Stephenson County, has started for Europe, and Dr. Moses M. Baumgartner has been appointed deputy coroner during his absence.

Dr. J. Allen Patton, of Chicago, has recently accepted the position of assistant medical director of the Prudential Life Insurance Company of Newark, N. J. The Doctor and his family have moved to Newark, N. J.

Prof. August Martin, Berlin, Germany, who visited Chicago this week, delivered an address before a joint meeting of the Chicago Medical Society and Chicago Gynecological Society, May 13, and held clinics at several hospitals.

Drs. Frank Billings, Chicago; Vaclav H. Podstata, Elgin; J. L. Greene, Hospital Gillette, Jacksonville; William L. Athon, Anna and George A. Zeller, South Bartonville, were appointed delegates to represent Illinois in the National Conference of Charities and Corrections, held in Richmond, Va., May 6-13.

NEWS.

It will be worth your while to look at the Want Ad. Department.

Do not fail to make your "wants" and "for sales" known in our Want Ad. Department.

Dr. Weller Van Hook, of Chicago, has resigned the chair of surgery in Northwestern University Medical School.

The Want Ad. Department is proving a great success. Numerous inquiries have been received in response to the advertisements.

Dr. A. N Richards, of the College of Physicians and Surgeons of New York City, has been appointed professor of pharmacology in Northwestern University Medical School.

Dr. A. W. Meyer, of the University of Minnesota and formerly of Johns Hopkins, has accepted the professorship of anatomy in Northwestern University Medical School.

On April 18 the annual banquet and meeting of the German Medical Society was held at the Bismarck Hotel, Chicago, after which a vaudeville entertainment was given.

Dr. J. W. Bodkin, of Virden, was found guilty in the County Court at Carlinville, May 1, of the charge brought against him by Miss Anna Regan. Dr. Bodkin will appeal.

The first annual charity for the benefit of Oak Park Hospital given in the Oak Park Club April 21, under the auspices of the medical staff of the institution, netted almost \$2,000.

On April 22 a benefit performance was given at Orchestra Hall, Chicago, for the benefit of the Home for Convalescent Women and Children, the net receipts of which were about \$2,000.

Dr. Willis C. Stone is said to have been fined \$25 and costs, April 28, by Municipal Judge Maxwell, for striking a boy who persisted in building a bonfire near the physician's home.

At a meeting of the Canton Physician's Club, May 1, it was decided to accept the invitation of the Misses Graham to take charge of the program in connection with the laying of the corner-stone of the new Graham Hospital. The corner-stone was formally laid May 6.

As a result of the competitive examination for the position of internes in the Cook County Hospital, the following medical schools had successful candidates: Rush Medical College had 15, Northwestern University Medical School, 13, and College of Physicians and Surgeons, 5.

Dr. John B. Murphy, of Chicago, has resigned as professor of surgery and co-head of the department of Rush Medical College, and has accepted the professorship of surgery, head of the department, in Northwestern University Medical School and the position of attending surgeon at Mercy Hospital.

The annex to Mercy Hospital recently completed at a cost of \$250,000 was taken in, May 7, by the hospital and will be formally dedicated June 1. The new building is a five-story, fireproof structure, containing space for the administration offices, reception and waiting rooms and 90 private rooms for patients.

The Medical Association of the Southwest will hold its next annual meeting in Kansas City, Mo., Oct. 20 and 21, 1908. This medical association is composed of members from the following five states: Kansas, Arkansas, Oklahoma, Texas and Missouri. Kansas City is an ideal convention city, being the second largest city in the territory of the association, and, being amply supplied with hotels, there will be no difficulty in accommodating the visiting members. The committee of arrangements is even now actively at work making plans for taking care of those who attend. The secretary, Dr. F. H. Clark, of El Reno, Oklahoma, is preparing a very strong program, and this, together with Kansas City's popularity as a meeting place, will swell the number of attendants above what it has been at any previous meeting. Entertainment will be furnished in abundance, especial provisions being made for the visiting ladies. Keep the date open and arrange your business so you can attend. Dr. John Puntton, 532 Altman Building, Kansas City, Mo., is chairman of the committee on arrangements, and will be glad to answer any communication relative to the meeting.

SOCIETY NOTES.

At the April meeting of the Tazewell County Medical Society the following officers were elected: President, Dr. Carl G. Muehlmann, Pekin; vice-president, Dr. Harry V. Bailey, Pekin, and secretary-treasurer, Dr. Edger E. Kilby, Mackinaw.

At the annual meeting of the East St. Louis Medical Society, April 13, Dr. Ato C. Houch was elected president; Dr. Charles S. Skaggs, vice-president; Dr. Henry A. Cables, secretary, and Drs. Carl A. W. Zimmermann, Henry Hansen and William S. Wiatt were elected censors.

The Jersey County Medical Society held its regular meeting April 9, 1908. The following officers were elected for the year: President, Dr. A. K. Van Horn; vice-president, Dr. H. R. Gledhill; secretary and treasurer, Dr. A. S. Hunt. Dr. A. K. Van Horn was also elected delegate.

At the annual meeting of the Rock Island County Medical Society the following officers were elected: President, Dr. T. J. Lamping, Moline; first vice-president, Dr. Ludewig, Rock Island; second vice-president, Dr. M. S. Dondanville, Moline; secretary, Dr. H. L. Youts, Moline; treasurer, Dr. A. E. Williams, Rock Island.

The Wayne County Medical Society met at Cisne April 30, 1908. The following officers were elected: President, Dr. W. M. Johnson; vice-president, Dr. N. J. Hall; secretary-treasurer, Dr. J. P. Walters; delegate to the state convention, Dr. J. F. Sinclair; alternate, Dr. N. J. Hall. Censors to be appointed by president when needed.

A meeting of the Pike County Medical Society was held at Pittsfield April 23, 1908. The following officers were elected for the ensuing year: President, Dr. L. S. Lacy, Pittsfield; vice-president, Dr. J. Estill Miller, Pittsfield; secretary-treasurer, Dr. R. H. Main, Barry; delegate, Dr. J. Smith Thomas, Pleasant Hill; alternate, Dr. George U. McComas, New Canton.

The regular meeting of the Hancock County Medical Society was held at Carthage April 6, 1908. The following officers were elected: President, Dr. H. H. Sherwood, Bowen; vice-president, Dr. G. E. Humphrey, Ferris; secretary, Dr. C. L. Ferris, Carthage; treasurer, Dr. R. R. Loomis, Burnside; censor, Dr. L. N. Tate, Carthage; state delegate, Dr. J. L. Jenkins, Carthage.

The Cass County Medical Society has elected the following officers for the ensuing year: President, Dr. John W. Huston, Virginia; vice-president, Dr. R. H. Garm, Beardstown; secretary, Dr. J. A. McGee, Virginia; treasurer, Dr. C. M. Hubbard, Virginia; board of censors, Dr. George Bley and Dr. C. E. Souse, of Beardstown, and Dr. J. G. Franken, of Chandlerville.

The Hamilton County Medical Society met in regular session April 14 and the following officers were elected: President, Dr. I. W. Asbury; vice-president, Dr. H. W. Dale; second vice-president, Dr. I. I. Hall; secretary-treasurer, Dr. C. M. Lyon, and board of censors, Drs. S. W. Williams, J. J. Hassett and P. M. Nation. The next meeting of the society will be held at Broughton on Tuesday, July 13, 1908.

The regular quarterly meeting of the Mason County Medical Society convened in Mason City April 6, 1908. The following officers were elected: President, Dr. C. W. Cargill, Mason City; vice-president, Dr. H. O. Rogier, Mason City; secretary-treasurer, Dr. E. E. Rhorabaugh, San Jose. Drs. E. W. Paul of Forest City, W. R. Grant of Easton, Nelson A. Wright of Manito and B. C. Graves of Topeka were elected new members of the society.

The Stark County Medical Society met in Toulon on April 14, 1908. The following officers were elected: President, Dr. J. R. Holgate, Wyoming; vice-president, Dr. C. Belfield, Castleton; secretary-treasurer, Dr. D. F. Stewart, Elmira; censors, Drs. M. T. Ward, Toulon, P. S. Wead, Wyoming, and C. Berfield, Castleton; delegate, Dr. M. T. Ward, Toulon; alternate delegate, Dr. R. King, Wyoming; member of the Medicolegal Committee, Dr. E. B. Packer, Toulon.

The thirty-fourth annual meeting of the Central Illinois District Medical Society was held April 28 at Pana under the presidency of Dr. Frank P. Auld, Shelbyville. The following officers were elected: President, Dr. Frank P. Auld, Shelbyville (re-elected); vice-president, Dr. Don W. Deal, Springfield; second vice-president and treasurer, Dr. John N. Nelms, Taylorville; secretary, Dr. Roscoe C. Danford, Pana (re-elected), and censors, Drs. Darwin D. Barr, Taylorville; Jacob Huber, Pana; William J. Eddy, Shelbyville; Ben B. Griffith, Springfield, and Frederick J. Eberspacher, Pana.

PUBLIC HEALTH.

Twelve cases of smallpox are reported in Virginia.

Fairbury reports 9 cases, all under strict quarantine.

No new cases have occurred in Chenoa for four weeks.

Five cases of smallpox are reported in one family in Elgin.

Whooping-cough is reported to be epidemic in Cortland.

The Oak Street School, Elgin, was closed April 10 on account of smallpox.

On April 16, for the first time since last summer, Peoria was without a case of smallpox.

Five families in La Harpe have been placed under quarantine on account of scarlet fever.

The Supreme Court is said to have declared that the state law which makes vaccination compulsory is illegal.

The 16 police ambulance surgeons of Chicago, on April 25, donned the new uniform prescribed by the health commissioner.

Dr. Thomas H. Griffiths, inspector of the State Board of Health, was sent to Monee, April 20, to investigate a reported outbreak of smallpox.

Dr. R. Scoda, charged with practicing medicine without a license, is said to have been found guilty and fined \$20, April 30, in Judge Scovel's court.

The State Board of Health, at a special meeting, held in Chicago, April 25, revoked the certificate of Dr. Jabez Clifford Casto, late of Decatur, on account of unprofessional conduct in connection with the publication of fraudulent testimonials in the daily newspapers of Decatur.

Dr. Levi J. Rhea, health officer of La Harpe, states that scarlet fever and not smallpox has been prevalent in La Harpe. Since March 30 only one case of scarlet fever has been reported, and this gives no cause for alarm. All the cases have been of mild type and the total number does not exceed 35.

During the week ended April 25, 10 smallpox patients were sent to the Isolation Hospital, Chicago, three of whom were from Evanston, Ill., and eight of whom contracted the disease from the same source, an unvaccinated colored boy with a mild type of smallpox. At present there are 15 cases of smallpox remaining at the hospital.

Among the few bills passed by the House of Representatives last week was one appropriating to the State Board of Health \$3,000 for special research into the cause and prevention of tuberculosis, and a second appropriating \$1,000 for the treatment and care of indigent persons afflicted with hydrophobia. This latter was introduced at the instance of the State Board of Health.

The ordinance to regulate hospitals drafted by Dr. George Hunt, of the Health Department, has been recommended for passage by the council committee on health. The proposed ordinance provides for an advisory board of three experts whose duties shall be to regulate hospitals, provide requirements for new institutions and otherwise supervise places where the sick are cared for.

At a special meeting of the State Board of Health, held April 25, the board, by a formal resolution, approved of the proposition to subject all physician applicants for a state license to a practical examination, covering one day, in addition to the written examination, which requires three days for completion. Owing to press of work the details were not ar-

ranged, but it is probable that the plan will be put into operation with the October (1908) examination.

The mutual organization of Chicago and neighboring cities to promote the further purification of Lake Michigan as a water supply was completed at a meeting held in Chicago April 18, at which Dr. William A. Evans, health commissioner of Chicago, was elected president; Prof. Edward Bartow, of the University of Illinois, Urbana, secretary; Dr. Frank W. Shumway, Lansing, secretary of the State Board of Health of Michigan, treasurer, and Drs. William A. Evans and Perry Schurtz, Grand Rapids, Mich., and Mr. C. D. Hill, of the Chicago Board of Local Improvements, with other members to be chosen later, executive committee.

The Department of Health of Chicago has submitted plans to the Board of Education to increase the efficiency of the public and parochial schools of Chicago by raising the standard of health among the 400,000 pupils. The department is desirous of establishing a complete mental and physical inspection bureau in the schools. The purpose is to have expert examination of all the children and if any mental or bodily defects are found to give such medical aid as will improve conditions. The plan is to have 100 doctors attend to work in the schools. These medical men could go into the schools of the city and examine from 10 to 20 pupils each day. Whenever a physical defect was found, treatment would be given and the parents advised as to the future attention of the child. It is also suggested that nurses be appointed to follow up each case and see that the parents obey instructions.

The Bulletin of the Illinois State Board of Health gives the following clinical report on antitoxin administered: "Nineteen hundred and thirty-nine clinical reports of the administration of the antitoxin furnished by the State Board of Health have been received by the board from physicians throughout the state during the period from Oct. 12, 1907, to Jan. 31, 1908. Of the 1,939 injections given, 748 were for immunizing of persons who had been exposed to diphtheria. The remaining 1,191 constituted curative treatments for persons suffering from diphtheria. Through these 1,191 injections 702 persons in various stages of the disease, from the first to the tenth day of the membrane, were treated. Complete recovery resulted in 659 of the 702 persons treated. There were 43 deaths, or a death rate of 6.11 per cent. of the total number having the disease. In connection with the death rate, it should be noted that the first dose of antitoxin in some of the cases which resulted fatally was not given until as late as the tenth day of the membrane. In the majority of the fatal cases, antitoxin treatment was not begun until the third or fifth day of the membrane. Here we desire to again call the attention of the physicians of Illinois to the fact that the State Board of Health has established in the 102 counties in the state nearly two hundred stations, where the refined and concentrated diphtheria antitoxin furnished by the board may be obtained free of charge for use among the poor and rich alike."

The Illinois State Board of Health announces, in its January bulletin, the scope of the work which the laboratory can do: "The receipts during the past few months of several pathologic specimens, with requests for examination, has led us to again state what we have already stated in these columns, that the laboratory of the State Board of Health does not make pathologic examinations. The laboratory was established to render more efficient the public health supervision of the state and has, up to this time, confined itself to the diagnosis of communicable diseases. Specimens from patients supposed to be suffering from tuberculosis, diphtheria, malaria and typhoid fever are examined, without cost, on the application of any health officer or physician. In the majority of instances the examination of pathologic specimens has no bearing whatever upon the prevention of communicable disease or the protection of the lives and health of the people. There are many and excellent private laboratories to which this class of work legitimately belongs. It is quite probable that, within a very few years, the scope of the State Board of Health Laboratory will be materially increased, but the new work undertaken will doubtless be in the same direction as that now done by the board. It is not at all improbable that rabies will afford an important branch of laboratory work, nor that, with the rapid advancement of medical science, scarlet fever and smallpox may be susceptible of prompt and accurate laboratory diagnosis.

"The laboratory of the State Board of Health does not examine specimens of milk or of any other food. Such specimens should be referred to Hon. A. Hanby Jones, State Food Commissioner, Manhattan Building, Chicago. Samples of water are examined by the laboratories of the State Water Survey at Urbana, through a joint arrangement between the State Water Survey and the State Board of Health. In answer to many inquiries we will say that diphtheria cultures may be sent through the mails in the containers furnished by the State Board of Health, which are made in accordance with the requirements of the postoffice department. There is no law prohibiting the transmission of diphtheria cultures through the mails. Samples of sputum may be sent in the especially devised containers furnished by the State Board of Health, or in an ordinary liquid mailing tube, providing that when the latter is used a few drops of carbolic acid be added to the sputum. First-class postage should be paid on specimens of diseased tissue transmitted through the mails."

NEW INCORPORATION.

The Resthaven Sanitarium has been incorporated at Elgin by Drs. George F. Washbourne, Elgin, and Richard Foster, Chicago, with a capital of \$35,000.

CHANGE IN LOCATION.

Dr. John Murray has removed from Carbon Hill to Joliet.

Dr. E. R. Van Meter, of Elkhart, has removed to Springfield.

Dr. William Louis Wilson has removed his office to 5533 Madison Avenue, Chicago.

Dr. John Edwin Rhodes has changed his residence to 5045 Washington Avenue, Chicago.

Dr. E. C. Spitze has removed from East St. Louis to Grand Avenue and Olive Street, St. Louis, Mo.

Dr. Joseph M. Patton, of Chicago, has taken an office at 92 State Street, Suite 910 Stewart Building.

Dr. George S. Park, of Varna, on account of his health, has sold his practice and removed to Haskell, Colorado.

Dr. F. D. Hollenbeck announces the removal of his office to 100 State Street and his residence to 4411 North Ashland Boulevard, Chicago.

Dr. William C. Willard has discontinued his office hours in the Marshall Field Building and hereafter will confine them to his residence in Kenilworth and his office in Evanston.

Dr. F. G. Harries wishes to announce that he is now associated with Dr. B. C. Corbus and that hereafter his practice will be limited to the treatment of diseases of the skin and of the genito-urinary system. Office, 407 Schiller Building, 103-109 Randolph Street.

MARRIAGES.

CHARLES MARVIN FOX, M.D., to Miss Cora Monroe, both of Chicago, May 6.

JOHN JOSEPH EGAN, M.D., to Miss Theckla Gensler, both of Chicago, April 20.

MARTIN OLSON, M.D., Chicago, to Miss Inga Aagot Rovel, of Elgin, Ill., April 22.

FRANCIS MARION EWING, M.D., and Miss Mabel Stokes, both of Lincoln, April 20.

RAYMOND J. NATE and Miss Geraldine Ogden, both of Chicago, were married at Jacksonville April 30.

NATHANIEL CURTIS ROGERS, M.D., Rockford, Ill., to Miss Florence Marie Williams, of Chicago, April 25.

DEATHS.

CHARLES WILBUR CARRIER, M.D., Chicago Homeopathic Medical College, 1877; died at his home in Desplaines, Ill., April 16, aged 58.

SARAH J. HOGAN, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1886; died at her home in that city, April 23, aged 83.

ELIAS CORNELIUS GUILD, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1874; died at his home in Wheaton, Ill., April 23, aged 76.

JAMES H. EMERY (years of practice, Ill.), 1878; for forty years a practitioner of Blandinsville, Ill., died at his home in Newkirk, Okla., April 28, aged 76.

SAMUEL R. GRAY (years of practice, Ill.), 1877; for forty years a practitioner of Edgar County, Ill., died suddenly at his home in Chrisman, April 30, from heart disease, aged 70.

T. W. WILLIAMS, M.D., Casey, Ill., died at Hot Springs, Ark., a few weeks ago. He lived at Casey all his life and had been actively engaged in the practice of medicine for many years.

OSWAL EVANS BAKER, M.D., College of Physicians and Surgeons, Keokuk, 1890; of Dunlap, Ill.; died in St. Francis Hospital, Peoria, April 26, from surgical shock, two days after an operation, aged 57.

JOHN MILLS, M.D., of Beecher, a pioneer practitioner of Shelby County, died May 3, 1908, at the age of 84 years. For forty years Dr. Mills practiced medicine in Shelby, Effingham and Fayette counties, most of his work being done on horseback, as highways were almost unknown.

JOHN B. LEITZELL, M.D., Pennsylvania Medical College, Gettysburg, 1853; a member of the Illinois State and Stephenson County Medical societies; died at his home in Dakota, Ill., April 25, from asthma and lung disease, after an illness of several weeks, aged 79.

WILLIAM F. WERGEN, M.D., College of Physicians and Surgeons, Chicago, 1904; formerly of Lead, S. D.; one of the medical assistants at the Ottawa (Ill.) Tent Colony for Tuberculosis; died at the home of his parents in Ottawa, April 16, from tuberculosis, after an illness of more than three years, aged 28.

J. SANDERSON CHRISTISON, M.D., New York University Medical College, New York City, 1877; an alienist and criminologist of Chicago who appeared as expert in a number of celebrated cases; died in his apartments in Chicago, April 8, from gas asphyxiation, aged 58. The coroner's verdict was that the physician came to his death by his own hand.

ARTHUR MELVIN LEE, M.D., Medical Department, University of Nashville, Tenn., 1878; a member of the Illinois State and Jackson County Medical societies; a veteran of the Civil War; surgeon to the Southern Illinois penitentiary, Chester, for three years; a member of the legislature in 1896, and at various times a member of boards of pension examining surgeons; died at his home in Carbondale, April 2, from influenza, after an illness of two months, aged 68.

ANDREW MCINTOSH, M.D., of Alton, died April 11, 1908, aged 73 years, of cerebral hemorrhage. He had practiced his chosen profession for nearly fifty years within one and a half miles of the place of his birth. He was a member of the Wabash County and Illinois State Medical societies. He was also a member of the American Medical Association for more than thirty years, and had served as coroner of Wabash County for

twelve years. Dr. McIntosh was the second graduate in medicine in Wabash County, having graduated from the Cincinnati College of Medicine and Surgery in 1869.

CARLTON E. STARRETT, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1884; Rush Medical College, 1893; a member of the Association of Military Surgeons of the United States and Association of Military Surgeons of the State of Illinois; captain and assistant surgeon of the Third Illinois Infantry, U. S. V., during the Spanish-American War, serving with that command in Porto Rico; major and surgeon, Illinois National Guard, assigned Third Infantry; surgeon to St. Joseph's Hospital, Elgin; died in St. Luke's Hospital, Chicago, May 1, from diffuse suppurative meningitis, after an illness of one week, aged 43. He was given a military funeral at his home in Elgin, May 3, with full ceremonial, three companies and the hospital corps of the Third Infantry participating.

BOOK NOTICES.

A PRACTICAL GUIDE TO THE EXAMINATION OF THE EAR. By Selden Spencer, A.B., M.D., Instructor of Otology in the Washington University; aural surgeon to the Martha Parsons Free Hospital for Children. With an introductory chapter by H. N. Spencer, M.D., LL.D., Professor of Otology in Washington University. C. V. Mosby Medical Book and Publishing Company, St. Louis, 1908.

THE SUBMUCOUS RESECTION OF THE NASAL SEPTUM. By Otto T. Freer, M.D., Professor of Rhinology and Laryngology, Chicago Polyclinic, Assistant Professor of Diseases of the Nose, Throat and Chest, Rush Medical College. Fifty pages—twenty-four original illustrations. Published by *The Journal of Ophthalmology and Oto-Laryngology*, 100 State Street, Chicago. Price, 50 cents.

This booklet is Dr. Freer's latest and only full description of the submucous operation which he has, perhaps, done more than any other man to develop.

THE PHARMACOPEIA AND THE PHYSICIAN. A series of articles which originally appeared in *The Journal of the American Medical Association*, discussing the chief substances in the United States Pharmacopeia, classifying them according to their uses and describing their methods of combination and how they may take the place of many proprietary preparations for which extravagant claims have been made. By Robert A. Hatcher, Ph.G., M.D., Assistant Professor of Pharmacology, Cornell University Medical School, New York, and Martin L. Wilbert, Ph.M., Apothecary to the German Hospital, Philadelphia. Second revised edition. American Medical Association, Chicago, 1908. 404 pp. Cloth, flexible cover. Price, \$1.00.

This book is a digest of the U. S. Pharmacopeia. It has been published with a view of emphasizing the importance of and elaborating on those pharmacopoeial preparations with which the physician should become thoroughly familiar in order that he may prescribe fearlessly and effectually. Throughout the book specimen prescriptions are given as examples of the best combination and form in which the drug can be dispensed. The special pharmacologic action which the various drugs possess and the best way of administering them is explained. In those cases where a certain preparation is not miscible with the ordinary solvents, attention of the reader is directed to the fact, and a statement follows that capsules, powders, emulsion or alcoholic solution, etc., is recommended as the best form of exhibition.

The physician who gives this book a thorough study will possess a practical working knowledge of all important official preparations so that he can extemporize prescriptions with precision, accuracy and absolute confidence.

4/A 2.11.17

